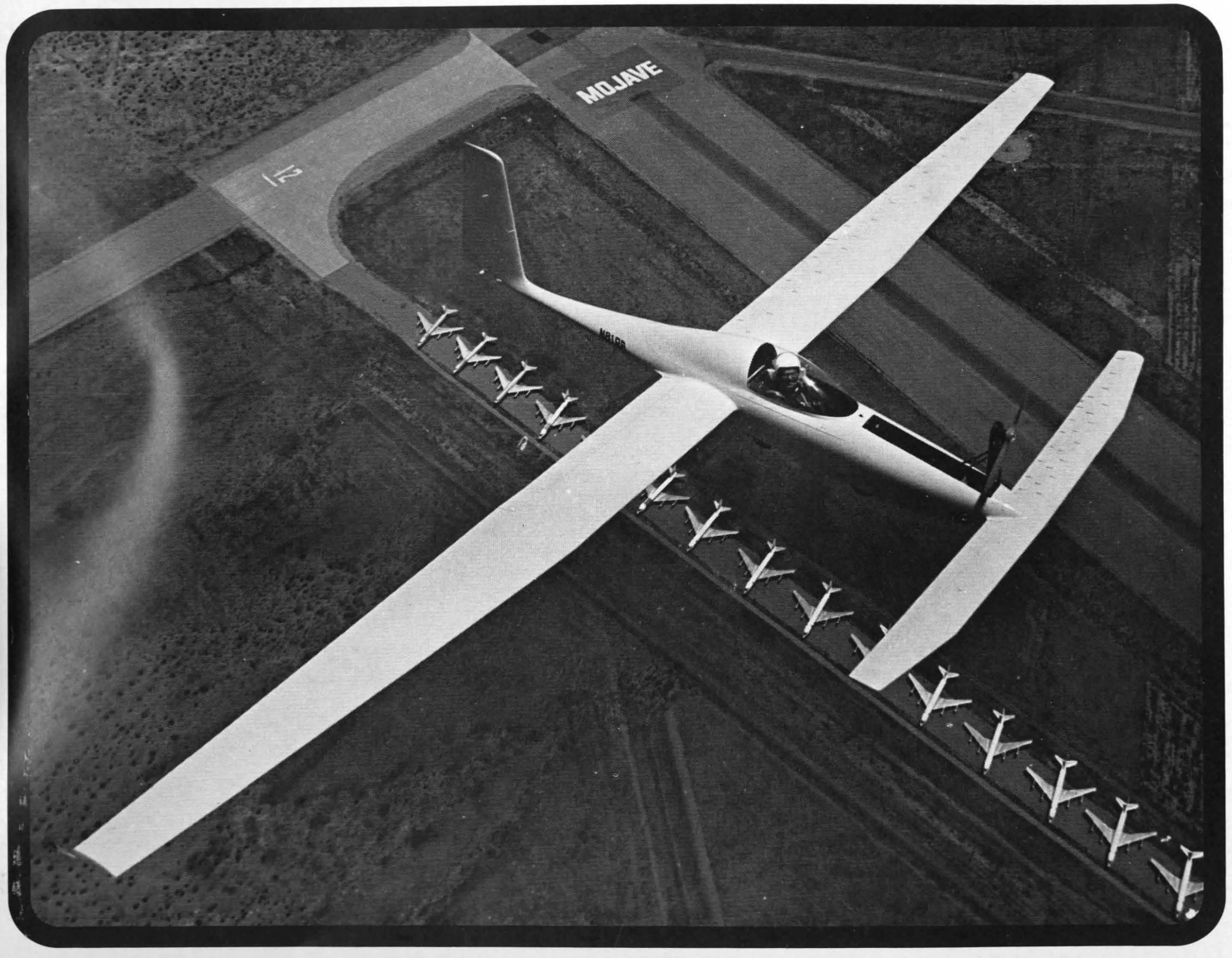
# Sportsman Pilot™




Summer 1982

# Sportsman Pilot

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ALL ARTICLES AND PICTURES BY JACK COX UNLESS OTHERWISE CREDITED.



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## Mag Check

California was **made** for lightplanes.

I was constantly reminded of this fact during our recent visit to the Golden State to attend the Watsonville and Merced fly-ins. We enjoyed good VFR flying weather the entire 12 days and, consequently, had Ken Brock's Turbo 210 running all over the place. Ken uses the plane like most of us use our cars, and in California he'd be hard pressed to conduct his affairs without it. Topographically, the place is as pleated as an accordian, with rows and parallel rows of mountain ranges running north/south the full length of the state. People live in the valleys between them, so almost anytime you go somewhere, you must traverse some hills, a ridge or range. Before the Interstate highways were built, it must have taken forever to go anywhere . . . which may account, at least in part, for the fact that California has led the U.S. in personal aircraft ownership throughout most of aviation's history. It's the only way to travel out there.

Of course, year round flying weather and a lot of nice big airports left over from World War II haven't hurt either.

And with around 30,000 aircraft registered in the state, it stands to reason that a good number are going to be sportplanes . . . and they are. Pick your favorite homebuilt, antique or classic and look it up in FAA's aircraft registry . . . likely as not, more of them are in California than any other state.

The numbers, in turn, explain two big events like Watsonville and Merced. Essentially local fly-ins, they nevertheless have so many California sportplanes from which to draw that they would be successful if not a single out-of-state airplane showed up. They do, of course, because the rest of us want to join in the fun.

Watsonville, Merced, El Mirage, Ramona, Hollister, Porterville, etc., etc. . . . you've just got to get out there to Airplane Heaven and attend one (or more) of them sometime.

. . . and we haven't even talked about the beauty of the countryside you'll fly over getting there.

# KALEIDOSCOPE

## Tom Jewett

**After this issue was closed out, we received the sad news that Tom Jewett, president of Quickie Aircraft, had been killed in the crash of the Free Enterprise, his non-stop round-the-world challenger. The long winged aircraft reportedly crashed while turning final at Mojave. Our condolences to Gene Sheehan, his close friend and business partner, his family and wide circle of friends and business associates.**

## ON THE COVER

**Photo by Pat Storch**

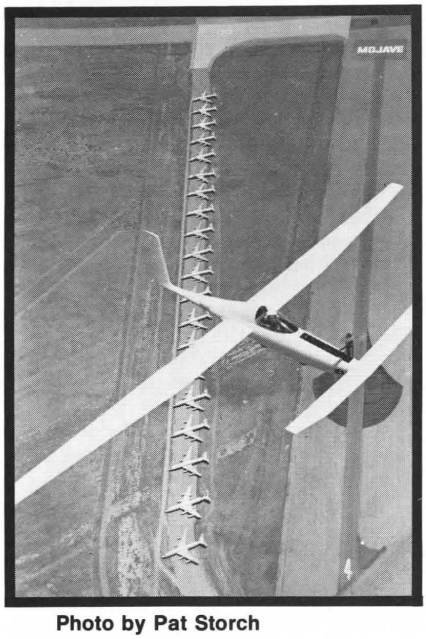



**Photo by Pat Storch**

Mike Melvill motors over the Mojave, CA airport in Burt Rutan's Solitaire, his entry in the Soaring Society's Design Competition. A self-launching sailplane, the Solitaire is fitted with a small 2-cycle engine (we won't mention the brand, because a new one may be installed by the time you are reading this) buried in the nose. It drives a propeller mounted on an arm that is cranked up and down from the cockpit. Flush fitting doors will streamline the fuselage when the prop is retracted for soaring, but were not installed for this flight. Solitaire's structure is, of course, all-composite but, in a departure from previous Rutan practice is built using prefab molded fuselage shells.

The span of the wing is 41.7 feet but the L/D is almost 33 to 1 — quite unexpected on so short (for a sailplane) a span. As happened with Burt's earlier designs, however, the lifting canard is forcing a rethinking of the old rules of thumb. Empty weight (with the current engine) is 347 pounds and the wing loading is 5.1 pounds per square foot.

The Solitaire was initially flown under its own power, but more recently has also been towed like a pure sailplane. The first tow was behind a Super Cub but now its "mother ship" is the Rutan Grizzly. Mike Melvill has done all the test flying to date and is quite impressed with its performance — including some unexpected pluses: it handles crosswinds very well and has much better penetration than expected. Also, the "spoil flaps" (flaps that when pulled down, tip up a portion of their leading edge to form spoilers) are **very** effective. On landing approach they can be "played" like a throttle, Mike says.

The Soaring Society's "fly off" to determine the winner of the Design Competition will be held on September 6 at, would you believe, Tehachapi, CA — just up the road a few miles from Mojave! Originally scheduled for Elmira, NY, then in Texas, the "fly off" was finally set for Tehachapi because most of the competitors are from the West Coast.

The Solitaire was designed to be an entry level powered sailplane that would appeal to power pilots who have wanted to try soaring, but were turned off by the need for ground crews, tow planes, off airport landings, etc. It will be offered as a kit eventually — after the Soaring Society competition has been concluded.

## CAFE 400

The CAFE 400 efficiency race, successor to the CAFE 250, was run June 19 out of the Santa Rosa, CA airport and was won by Roy Lopresti in a 5-place Mooney 201. That's right, a **5**-place 201. And second place was taken by Dick Rutan in his 3-place Long-EZ . . . while his brother, Burt, was finishing third in a 6-place Defiant.

What gives?

Well, an efficiency race, almost by definition, rewards the airplane that carries the greatest amount of weight a given distance in the least amount of time on the least amount of fuel. CAFE 400 rules allowed as many passengers as seat belts could be provided for, so several competitors packed 'em in. Lopresti had 3 people in the rear seat; Dick Rutan had his mother and a person picked out of the crowd for his small size in the rear 'pit; and Burt not only had 6 aboard the normally 4-place Defiant, he also packed in 230 pounds of lead! He was credited with 1200 pounds in the cabin . . . including Sally Melvill who "won" a coin toss from Jeana Yeager for the dubious honor of being stuffed into the baggage compartment.

Fourth place went to Mike Smith in one of his modified A-36 Bonanzas and in fifth was Gary Hertzler of Phoenix in a Continental A-80 powered VariEze. Sixth through tenth place finishers were, in order, a Mooney 231, Beech Debonair, VariEze, Twin Comanche and Peter Garrison's Melmoth.

Last year's CAFE 250 winner, Quickie Aircraft's factory Q2, developed engine trouble and was forced to drop out. Gene Sheehan, an ol' hot rodder from 'way back, was going for it with a special, very high compression engine and it decided to shell out on him. A privately entered Q2 (there are about a dozen flying now) finished 18th overall — 5th among 2-seat homebuilts.

Some homebuilt standings by class were:

Single seat — A Quickie in first and second places and an RV-3 in third. There were just 3 single place entries.

Two place — VariEzes finished 1 (Gary Hertzler), 2 and 3; Mike Melvill's Long-EZ was fourth, a Q2 was fifth, Tom Hamilton's Glasair was sixth and Dick VanGrunsven finished seventh in his RV-4.

Three or more seats (and, again, this was a reflection of how many bodies were actually strapped in, rather than the plane's normal seating) — Dick Rutan was first; Burt, second; Peter Garrison (who also had 3 aboard), third; and Don Phillips, fourth with four persons in his Turbo BD-4.

Tom Hamilton was competing in his standard Glasair taildragger — the new tri-gear retractable was not finished in time — and once again this year was the fastest homebuilt in the field, with a speed of 185.8 mph. Of course, in an efficiency race, the emphasis is on the most **efficient** speed — not all-out top speed.

Roy Lopresti impressed everyone with his win in the Mooney. He is, of course, the Vice President in charge of Research and Development for Mooney Aircraft and is the person responsible for the 201 and 231. A lot of people assumed he was competing with full factory support, but this was not the case. He came out to California on his own and flew a borrowed 201. He did have time to give it a good wash and wax, remove all extraneous weight and tape up every orifice in the airframe — but that was it. The 201's basic efficiency and Roy's piloting skill did the rest.

It will be interesting to see what the Mooney factory does with this promotional windfall. They would be poor merchandisers, indeed, not to play the win for everything it's worth in their advertising. Hopefully, they will, because it would call widespread attention to the CAFE 400 and intensify competition next year.

## ANTIQUE PROJECTS

Following are a few antique projects we've had reports on of late.

● Wedell-Williams racer — Roscoe Turner's Wedell-Williams racer, which has been in the Thompson Products Museum for many years is beginning to get a little tattered around the edges, so its present owner, the Cleveland Aviation Hall of Fame Museum has commissioned George Larsen of Fairview Park,


## Merced

**Jim Jensen's Marquart Charger**

OH to refurbish it. The tail section and aft fuselage are going to need some new fabric, then the entire airframe will have to be repainted. Larsen plans to have the racer back on display this fall. Built in 1932, Turner raced the airplane until cracking it up enroute to the Bendix start in 1936. He won the Bendix with it in 1933, the Thompson Trophy in 1934.

● Laird LC-B-200 — Forrest Lovley is on the home stretch with the "Honeymoon Special", the 1928 Laird in which its designer, Matty Laird, and his wife flew on their honeymoon. It should make its debut at Blakesburg in mid-August. NC6906 is owned by Ken Love of Crete, IL.

● Prop maker Ted Hendrickson of Snohomish, WA has flown his newly restored Monocoupe 110 and just has to tweak the Warner a bit before he is ready to begin taking it to fly-ins.

● According to the Watsonville program, there are two Irwin Meteorplanes left — one in the Oakland Museum and the one Hollis Button had on display at the fly-in. Sorry, troops, but there is at least one more — owned by Dick Baxter in Seattle.

### UK MOGAS APPROVALS

First, the British CAA approved the use of auto fuel in a list of 120 lightplanes, mostly low powered jobs with gravity feed fuel systems. Now, they have given the green light to the Piper Pawnee equipped with the 235-260 hp Lycoming 0-540 . . . and, very significantly, the Lycoming 0-235 powered Piper Tomahawk and the 0-320 powered Piper Warrior. Both these engines are certified for 100 octane and both are in low wing airplanes with fuel pumps instead of gravity feed. Both types are approved for use — with auto fuel — in commercial flight training.

All the aircraft are approved for "four star fuel", which is a premium grade leaded gasoline — Europe did not go the unleaded route we did here in the U.S.

The British CAA is generally recognized as the toughest regulating body in aviation — about the only one not to accept FAA certification at face value. For them to approve auto fuel in lightplanes in so wholesale a fashion — albeit after a lot of bench and flight testing — makes one wonder about our FAA's foot dragging in approving EAA's STC for the Cessna 150. When will the charade end and blanket approval be given for all lightplanes?

### BEDE'S REVENGE?

Maybe Jim Bede was just too far ahead of his time. One of the sensations of this year's Grenoble, France Business and Light Aviation show was a tiny two place, V-tailed jet named the Microjet 200. Built by the French firm Microturbo, it is powered by two of their TRS 18 single stage axial turbines . . . yes, the same engine that powered the BD-5J. The Microjet 200 is being touted as a low cost alternative for flight training in third world air forces and/or low cost proficiency flying — for which the BD-5J was once evaluated. Its empty weight is 1433 pounds and the wing loading is a relatively high (for lightplanes) 38.5 pounds per square foot. The load factor capability is +7 Gs and −3.5 Gs. Seating is side-by-side, but offset to allow a narrower fuselage . . . a little trick also used by Clayton Folkerts when he designed the prototype Monocoupe in 1927.

### ULTRALIGHT EXPLOSION

Almost every day we get word of a new ultralight someone is putting on the market. It may have been this wild in the year following Lindbergh's flight to Paris, but nothing like it has happened in more recent times. Apparently, a lot of people have noticed that a lot of bucks are being made in the ultralight game, and they want to get in on the gravy before it runs out . . . as it inevitably will. We saw it happen in the snowmobile industry here in Wisconsin in the early 70s — a frantic boom period in which it seemed everyone with a drill press and a lathe was cranking out snowmobiles, followed by a horrendous crash which eliminated all but a handful of big, well financed companies. There's no market that can't be saturated, and ultralights are no exception. Let's just hope that when it does happen, the good designs will be the ones that survive . . . instead of those whose chief engineer is the company PR man.

Meanwhile . . . it sho' is excitin'!

### MONIS SHIPPED

John Monnett shipped the first batch of 24 MONI kits this spring, officially getting that design off and running in the homebuilt market. He has around 100 hours on the prototype and, so far, the little 2-cylinder, 2-cycle KFM 107 engine has been performing like a champ. Designed specifically for aircraft use and including a starter and alternator, it is the perfect power package for a fun airplane like the MONI. Incidentally, the engine has been operated exclusively on auto gas, with no problems whatsoever.

A second MONI has been under construction in John's beautiful new place of business at Oshkosh, with a planned debut during the EAA Convention.

### FALCO FLIES

The first plans-built Falco has flown. Larry Wolhers of Tucson, AZ test flew his new bird on June 14 . . . just one day before the 27th anniversary of the first flight of the first Falco, June 15, 1955.

Alfred Scott, the Virginia entrepreneur who has resurrected Italian designer Stelio Frati's beautiful little jewel for the homebuilt market, says nearly 250 sets of Falco plans have been sold and

that he is aware of 120 that are actually under construction. Ten or so are in the advanced stages and should fly within the year.

Scott's company, Sequoia Aircraft Corporation, also sells plans and kits for an original design high performance homebuilt, the Sequoia, a number of which are also nearing completion.

## NEW GYRO ENGINE

Ken Brock and HAPI Engines have collaborated to develop a special VW conversion for use on the KB-2 Gyroplane. The carburetion, ignition and oil cooling are tailored specifically for the gyro operation.

Ken Brock Manufacturing is also tooling up to make the metal parts for the popular **Dragonfly**. Should be available soon.

## SPENCER AIRCAR JR.

Spence is at it again . . . he's come up with a "junior" version of his big Aircar amphibian. It's a 2-3 place job that looks much like the Seabee (another of his designs) and Aircar in the cabin and float areas, but has a twin boom set up supporting the tail. It has a span of 33 feet and is powered by the 0-320 Lycoming. A starter kit that includes an assembled cabin and hull with landing gear and water rudder in place will be offered. For further info, contact P. H. Spencer at: Spencer Amphibian Aircar, 12780 Pierce St., Pacoima, CA 91331.

## INTERESTING STUFF DEPT.

● George Spratt of Controlwing fame is working on an ultralight version. And Mike Benjamin, P.O. Box 612, Cape Canaveral, FL 32920 has started a Spratt Controlwing Newsletter — $10.00 per year, $15.00 foreign ● Aerospatiale of France is flying a Lycoming 0-360 powered Tobago and a Rallye on liquified petroleum gas (LPG). LPG is half the price of avgas, 5% more power, lower consumption. 100,000 cars in France now use LPG ● Appointment of Linden Blue as new president of Beech Aircraft is being interpreted by some as a move toward that company getting into composites. Reason: Blue was formerly president of Lear Fan ● No Cessna 152s or 172s have been built since March 29. Some unsold 152s are being dismantled for parts. Wag-Aero is buying the engines for resale ● Molt Taylor's new reversible prop can be used to back the MicroIMP into a parking space, to slow it down on roll out or even in the air as a dive brake ● The Sorrell Guppy is now flying with a Revmaster modified Citroen C2V engine ● Dudley Kelly has come up with a new biplane design of his own (he also sells plans for the Hatz Biplane) ● Steve Wittman still has a few tricks up his sleeve — it's gonna have a big engine and its gonna be FAST! ● Wicks Aircraft and Aircraft Spruce and Specialty are handling materials kits for the new all composite Mohawk ● The Polliwagen is getting a new landing gear that retracts inward like Bonanzas, etc. ● Gene Turner of T-40 fame is designing an ultralight ● Gerry Ritz (the prop king) has two examples of his new ultralight design built and ready to spring on an unsuspecting world. He promises to smash current kit prices to smithereens! ● John Moody, the father of the modern ultralight, has created a flight training operation that utilizes radio communication so he can talk to soloing students — and even has a servo controlled throttle so he can override a clumsy student **from the ground!** If you want training via the Moody Method, call 414/878-4380.

# Cruisin' California

**The San Gabriels poke their heads through the overcast. Mt. Baldy is the tall one.**

## ONLY IN A LIGHTPLANE

I **should** have been helping Ken Brock roll back his hangar doors . . . instead of standing there with mouth agape, totally absorbed by the ludicrously bizarre scene unfolding before my eyes. Here I was, looking out across a ramp filled with millions of dollars worth of the newest, most sophisticated business and personal aircraft available today, smack dab in the middle of the third busiest airport in the world, surrounded — literally from the airport boundaries outward — by one of this planet's largest and certainly most cosmopolitan urban sprawls . . . watching a big loose-jointed, floppy eared jack rabbit loping casually through the forest of landing gears as if he owned the place!

People who grow up east of the Mississippi . . . and most Americans still do . . . often have difficulty adjusting to California. It is so **totally** different in climate, geography and cultural outlook, so casual in its juxtaposing of man and nature that, to many, visiting the state is like traveling to another country . . . albeit one that already has McDonalds!

Well, I'm not one of them . . . I love the place. Jack rabbits bobbing across big downtown airports don't bother me. As long as I don't hit one with a prop, I think it's as funny as a Roadrunner cartoon.

I mean — where else can you do the things in an airplane you can in an afternoon in California? If you've got a fast machine like Ken's Turbo 210, you can overfly almost every geographical superlative the U.S. has to offer . . . in just under 3 hours! Start out from Ken's home base, Long Beach airport — elevation 57 feet; palm trees; maritime, almost Mediterranean climate; in the midst of the Los Angeles basin and its, what? 3 or 4 million people and, yes, smog . . .

Circle out over the Pacific coastline, the Queen Mary and the new dome housing the Spruce Goose and on around to a northeasterly heading, climbing all the while . . .

Continue climbing up over the sea of humanity that is Greater LA until about 35 miles out, you abruptly depart civilization. You're now above the haze layer in clear, sparkling air and still climbing — over the San Gabriel mountain range. You change heading a bit to avoid snow capped Mt. Baldy, elevation 10,064 feet!

Just as abruptly you clear the San Gabriels . . . and at the foot of their northern face, you can plainly see a narrow band of tortured, twisted earth stretching off to the horizon to your left and right. Your spine tingles a little when you realize that, yes, this is the notorious San Andreas Fault . . . awesome, visible proof of WHY you don't fool with Mother Nature!

Then, spread out before you lies the great Mojave Desert, the "high desert" as they say in LA. "High" because in leaving the basin with a floor that gradually slopes up from sea level to around 1000 feet elevation in San Bernardino, you cross the mountains to the Mojave with a floor that averages, say, 2500 feet . . . and it's dry . . . you've come from palm trees to Joshua trees . . . from the blue Pacific to akaline dry lakes like El Mirage, Rosamond and Rogers, site of famed Edwards AFB . . .

Hold your heading over another 100

miles of moonscape until you vault the Owlshead Mountains . . . and there below you is legendary Death Valley — at 276 feet below sea level, the lowest point of land in the Western Hemisphere! Don't land (there is an airport), maintain your altitude because even with a turbo, you're going to need it!

Turn to the northwest, pick the tallest snow capped peak you can see out in the distance and fly to it. It's a hundred miles away, but on a clear day from here over the lowest point in the U.S. you can see the highest — in the "lower 48", that is. That's Mt. Whitney, elevation 14,495 feet, you're aiming for. If the weather's good, you're likely to see some hikers waving as you flash by the peak . . .

Now, head slightly southwest . . . right across the Sierra Nevada range. This is not too smart a move in a single engine plane, but you're turbocharged . . . and this is an imaginary trip, anyway, so go for it! It's just 50 miles across, but it's 50 miles of the roughest airplane eating real estate you'll ever wish you hadn't flown over . . .

Then, like magic, the mountains fall away below you and in minutes you're over the city of Porterville, home of the Mitchell Wing, among other things. Beyond it sweeps the San Joaquin Valley, with elevations running from 500 feet at Bakersfield to near sea level in the delta area east of San Francisco. This is some of California's, indeed, the world's prime farmland. It's flat as a pool table and with its section lines and patchwork fields of green, you'd swear you were in Kansas in the spring . . . if it weren't for the mountain ranges both to the east and the west. Fly north to near Merced and you'll begin seeing rice paddies . . .

Maybe this IS another country!

Turn a little southeast out of Porterville and make a beeline back to Long Beach . . . about 160 miles away. You'll soon overfly Bakersfield, with lush green irrigated fields to its south and west and an oil field to its north and east as bleak as any moonscape our astronauts ever trod.

Then you're over mountains again . . . but this time it's relatively easy. You're heading through the Tejon pass via Gorman VOR . . . better yet, Interstate 5, which is right below you all the way. It's a good positive reference to insure you don't stray a little to starboard and get over the Sespe Condor Sanctuary. That's right, folks, within sight of that epitome of urban living, the LA basin, a condor sanctuary! Don't fly below 3,000 feet over the terrain, your Sectional chart warns, lest those sharp eyed bird watchers report you to the feds in the twinkling of an eye. (While we were in LA, in fact, Ken got a call from the federales — someone had reported a helicopter in a forbidden area . . . with an N number registered to one Ken Brock. Something . . . or someone . . . was haywire, however, because that number was last on a gyroplane Ken sold in Australia 2 years ago!)

Past the mountains, you begin your descent into the basin . . . out of the clear air and down into that miasma of ocean breeze, auto exhaust, industrial and vegetative effluent we've so neatly labeled as "smog". We broach the LAX TCA by flying right through the middle of it — dead center over the top of Los Angeles International. A VFR corridor with a floor of 2500 ft. takes you right through . . . just be on the lookout for other traffic in the "tunnel".

We **could** head due south from LAX, on out over the San Pedro Channel and land at Catalina Island for dinner, adding still another dimension to our voyage of discovery. It's only 20 miles off shore — but it's been a long day. Aim for the white Spruce Goose dome — it's LA's newest and most visible landmark for pilots. Just before you get to it, look off your left wing and there's Long Beach airport . . .

And the jack rabbits!

You've just covered 480 statute miles in about 2 hours and 50 minutes (assuming a ground speed of 170 mph), but far more interesting than mere speed, time and distance, you've seen some of the most stupendous marvels of nature — the eastern edge of our planet's greatest ocean, one of man's most aggressive efforts to alter his natural environment, two 10,000 feet plus mountain ranges, one of nature's deepest holes, a great fertile valley, a parched desert . . . and even an earthquake fault line.

Only in California? You bet your boots, Bucky . . . and "Only in a lightplane!"

## FLY-IN MYSTERY

We were in California in late May to attend both the Watsonville and Merced fly-ins. These are two of the largest, most successful and longest running fly-ins in the U.S. Merced got underway in 1957 and was celebrating its Silver Anniversary this year; Watsonville was doing its thing for the 18th time, having started in 1964. Both are advertised as "antique airplane fly-ins", but, over the years, both have evolved into full blown sport aviation events, with trophies for all categories of sport planes . . . with one notable exception we'll deal with shortly.

There's just one thing us Easterners have never quite understood. The Watsonville and Merced airports are precisely 74 air miles apart, yet these two very similar events are held on succeeding weekends. Why? I've never heard a satisfactory explanation . . . and, apparently, no one cares anyway. A lot of the same people and airplanes are seen at both events each year, yet there are enough show planes that attend just one of them to make each well worth attending. A lot of pilots from the LA area attend Watsonville, leave their antique airplanes in the vicinity and come back for Merced the following weekend. Saves wear and tear on the old engines.

If there is an answer, perhaps it lies in the fact that the two events are sponsored all or in part by local groups . . . as opposed to a national organization. Watsonville is co-sponsored by the Northern California Chapter of AAA and the Watsonville Area Chamber of Commerce, and Merced is put on by the Merced Pilot's Association. They have been holding their events so long that few recall their origins . . . or why the dates were picked.

But, as we've said . . . who cares! They are both great fun, have tremendous numbers of interesting airplanes to ogle, you see so many of your friends there — and make so many new ones — that any negative considerations are irrelevant, anyway.

Besides, it sure saves **Sportsman Pilot** a lot of money to only have to buy one pair of air line tickets to fly out west to see 'em both!

## WATSONVILLE

Watsonville '82 was much like the Watsonville '81 we reported on last year — which is to say, "Great!" We slurped up 'way too many of those fantastic strawberry shakes, munched a lot more of those huge, juicy strawberries-on-the-stem than we should have — not to mention the deep fried artichoke hearts, etc., etc. And we wolfed down our eggs and pancakes at Corralitos' annual Sunday morning lumberjack breakfast much too fast . . . as always . . . so we could have time to enjoy the coughing, wheezing, cacophony of all the old time stationary engines, Maytag washing machines and antique cars on anything but static display there.

Of all the fly-ins I've ever attended — anywhere, anytime — Watsonville is Number One when it comes to gastronomic delights. Besides the goodies sold on the airport itself, two banquets are served at the local fairgrounds — on Saturday and Sunday nights. This year, we had barbecued chicken one night, beef the next, and both were superb. The prices were very reasonable and the portions . . . and opportunities for seconds . . . were so liberal that even our friend, Dave Gustafson, a trencherman of truly heroic capacity, was over gross by nightfall. My sincere regards to the chef.

One of the big stories of Watsonville '82 was the fact that two marauding Mid-Westerners came thundering in behind a couple of big radial engines to rip off the Grand Champion and runner-up antique trophies — right out of the hands of some truly competitive west coast restorers. Roy Redman of Kilkenny, MN flew his magnificent black and red Stinson SR-8C across the Rockies and Sierras to take Grand Champion — his second of the fly-in season, having also scored at Sun 'N Fun in March. And the Mayor's Trophy (runner-up) was awarded to Dick Martin of Green Bay, WI for his big ripsnortin' Howard DGA-15P. Dick, you will recall, was Antique Grand Champion at Oshkosh in 1979 and Roy was Grand Champ at Blakesburg in 1980, so neither were exactly lightweights (pun intended) in the trophy taking department.

Roy really mopped up. In addition to Grand Champion, he also took the National Stinson Club's award and the trophy for the best Owner Restored air-


**Hollis Button's Irwin Meteorplane.**

**Dick Stephens' (Hemet, CA) American (Vulcan) Moth.**


**The new Polliwagen prototype at Watsonville.**

plane. It was an especially rewarding trip for him because his son, Mike, lives near San Francisco and was able to attend the fly-in with him. Then, Roy's navigator for the flight west was a retired airline pilot named Ole Anderson . . . who just happened to be the pilot who had given him his first airplane ride in 1938 — in a SR-8C only 6 serial numbers removed from his Stinson!

Talk about a nostalgia trip!

The West Coast got back on track in the Homebuilt Category with Jim Smith's newly minted Marquart Charger. He was declared Numero Uno at Watsonville and again the following week at Merced. You'll read all about man and machine elsewhere in this issue, so suffice it to say here that the Charger is a real beaut . . . and was up against some truly tough competition.

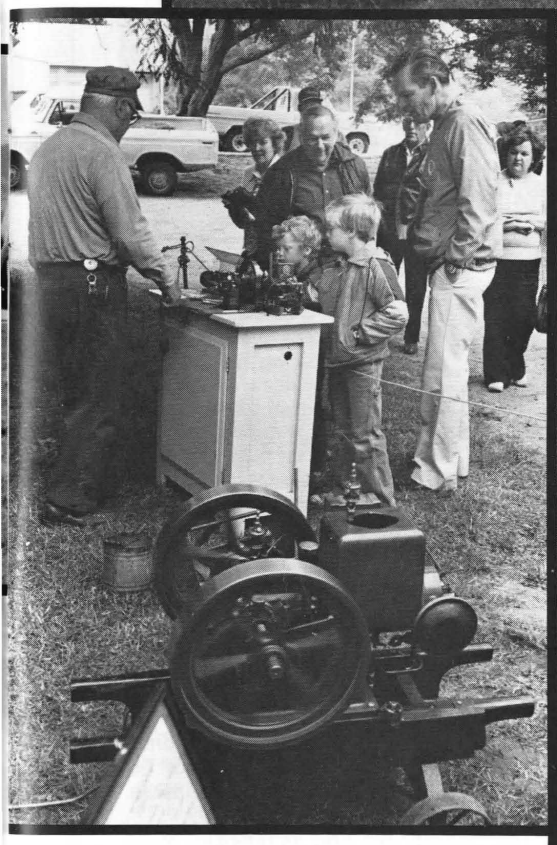
The Best Static Display award went to Hollis Button for his Irwin FA-1 Meteorplane. What's **that**, you say? Well, back in the 1920s, a fella named Jack Irwin was cranking out plans, kits and even a few ready-to-fly examples of a tiny biplane he had designed, including its 4-cylinder radial engine. He was probably Ed Heath's chief competitor for a time, but for whatever reason, Irwin is not as well known today. Most of his business was done in the 1920s from his plant in Sacramento, but he moved to Watsonville around 1930 and ran the airport there until World War II. He continued to sell kits and built a few Meteorplanes during that period.

In the 1970s, Irwin built up a Meteorplane for display in the Oakland Museum, aided by his friend, Hollis Button. Irwin died in 1977, but Button is keeping his work alive in the form of a FA-1 he has been building for the past 20 years . . . much of which has been spent working on patterns from which engine parts could be cast.

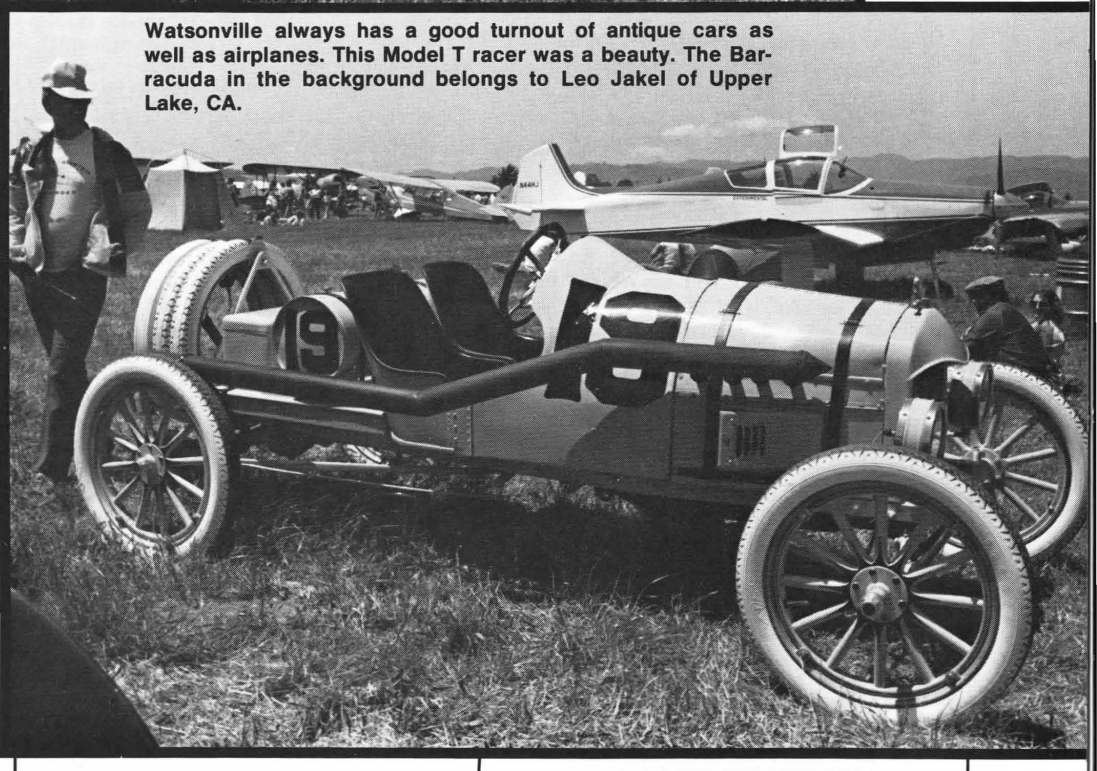
The project was far enough along at Watsonville '82 for Button to run the engine a number of times. It was getting a lot of fuel out the exhaust ports (it's a 2-cycle), but it sounded pretty mean for its 20 horsepower. Displacing 79 cubic inches, it weighed just 58 pounds. The 20 hp was produced at a modest 1730 rpm.

Jack Irwin was one of the pioneers of the homebuilt aircraft movement. It's nice to see him remembered in this


A beautiful Ryan STA owned by Don Carter of Lafayette, CA.



Stationary engines at Corralitos. The kids (including the big one) are fascinated by a gasoline powered pencil sharpener!




Watsonville always has a good turnout of antique cars as well as airplanes. This Model T racer was a beauty. The Barracuda in the background belongs to Leo Jakel of Upper Lake, CA.

way.

Jim Nissen was a big hit in the air shows again this year, looping, rolling and spinning his Jenny. He must be getting braver — he's adding turns to his spins. I counted 4 magnificent wobbles this year. What a blast! At the other end of the aerobatic performance scale were the Eagles — Tom Poberezny, Gene Soucy and Charlie Hillard, putting on their usual sterling performance. It was interesting to watch young John Christensen fly his solo routine. He is a lead pipe cinch for aerobatic greatness in the years ahead, if he chooses to pursue competition flying. It hasn't hurt to have his father, Frank, as a coach and, of course, supplier of Christen Eagles to fly, but beyond all that, you have to have ability. He's got it.

There was one negative aspect to Watsonville '82. Friday and Sunday were beautiful days after the usual early morning fog burned off . . . but Saturday was cold!! It's simply the chance you take staging any outdoor event right on the California coast. Get a breeze off the cold ocean water . . . as they also did at the U.S. Open golf tournament in nearby Pebble Beach a few weeks later . . . and you're going to have to break out the jackets. It doesn't slow down the fly-in, but unless you are properly clothed, it gets a little uncomfortable. Always take your longies to Watsonville . . . just in case.

"Cold" might also describe the reception ultralights got at Watsonville this year. They were, in fact, grounded for the entire weekend. Static displays were allowed, but no flying. Fly-in officials said that poor judgment on the part of some ultralight pilots during last year's event and the fact that as unlicensed aircraft flown by unlicensed pilots, ultralights posed a threat to their ability to insure the fly-in were deemed good and sufficient reasons for the ban.

This is the first instance I know of in which such action was taken, but it points to the fact that a lot of people in aviation are not enamored with ultralights. The folks at Watsonville have worked long and hard to get where they are with their fly-in and they aren't about to jeopardize its future. Can two forms of aviation — one licensed and the other unlicensed — peacefully coexist? That may well be the burning question in the years to come . . . and Watsonville '82

may have been where the question was first asked.

## SPORTSMAN PILOT VISITS . . .

Following Watsonville, the Brocks, Ken and Marie, and the Coxes, Golda and I, mounted up in Ken's 210 and launched for LA. We flew up the Salinas River valley to Paso Robles and on to Santa Barbara VOR . . . then tracked out towards LA and Long Beach. I don't want to get in trouble with their Chamber of Commerce, but I have NEVER seen Santa Barbara. Although I've flown over it a number of times, it exists in my experience as nothing more than the flipping of "To" to "From" on the OMNI. Does the sun **ever** shine there? Are you really down there, Santa Barbara? (Just kidding, folks.)

## BILL MORRISEY

For the next few days, we visited a number of interesting people with interesting projects, all within easy reach of the LA area. The first were Bill and Helen Morrisey at their research hangar at Oceanside Airport. Bill had completed his test program on his new OM-1, had it licensed by FAA (in the Exhibition Category) and was preparing to convert it to the two-place configuration . . . with the 4-place version to follow.

Now, a number of you newer subscribers to **Sportsman Pilot** may not be familiar with this project, so let's stop here for a little background info. You're familiar with the Varga Kachina, right? Well, that airplane can be traced to a 1948 design called the Morrisey Nifty. It looked much like the present-day Varga, but had wood wings and a tube and rag fuselage. Power was a Continental C-90. The designer was William J. "Bill" Morrisey, then chief pilot of Douglas Aircraft Company. After a career that included such credits as being the pilot for the first flight of the C-124 Globemaster, the check pilot for President Truman's air crew on the "Independence", etc., etc., he resigned in 1954 to form his own company to certify and build an all-metal development of the Nifty. Certified in 1955 (in what Bill believes to be the quickest and least expensive certification program in modern times), the airplane was produced as the Morrisey 2150. Manufacturing rights were subsequently sold and the airplane has been marketed, successively, as the Shinn and the current Varga.

Not content with a rocking chair retirement, Bill has recently embarked on an ambitious program that will make available to homebuilders a "convertible" design that can start as the single place tail dragger you see pictured here, and later be converted to two-place tandem or, with an extended center section, a four-place. A tricycle gear is optional in any of the configurations. The plentiful Lycoming 0-320 powers all versions.

The first kit version of the two-place OM-1-2 is already well along and is expected to fly late this year. Ted A. Reusch of Los Angeles is the builder.

Bill's OM series is a truly intriguing concept, and will result in sporty, but docile aircraft that any licensed pilot will feel comfortable in. If you want more information, plus follow-on newsletters, send $12.50 to Morrisey Aircraft, P.O. Box 440, San Luis Rey, CA 92068. (Phone 714/757-8291)

## ED SCHMUED

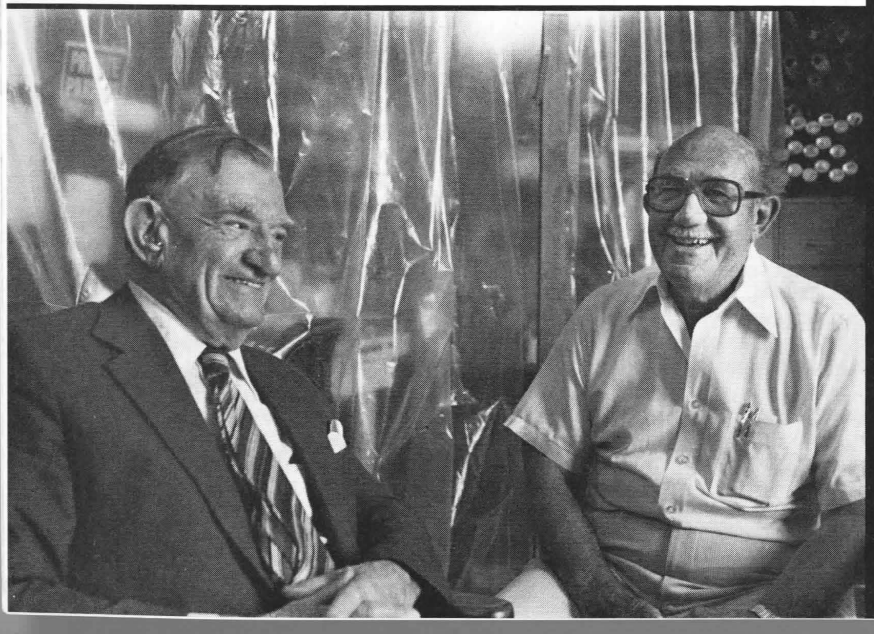
While at Bill's hangar, we were joined by Ed Schmued and his wife, Christel. In case any of you were marooned on a desert island for the last 40 years or so, you'll be interested to learn that Ed was the designer of the North American P-51 Mustang, without question the favorite airplane of more people than any other ever conceived.

Like his friend, Bill Morrisey, Ed has accepted "retirement" simply as an opportunity to do a lot of things he never had time for when employed by others. In between designing advanced medical equipment and other non-aviation items, Ed has designed a family of small air cooled aircraft engines, ranging from a 15 horsepower version that could be used in ultralights, through a 45 hp opposed twin and even a 70 hp **four** cylinder radial. All are 2-cycle . . . but not like any 2-cycle you have ever seen before. They feature such things as an integral centrifugal blower to provide intake charge and clean air scavenging, which, in turn, eliminates crankcase compression. This means a four cycle type oil sump can be used, eliminating mixing oil in the fuel. Direct fuel injection is used — with a very cheap type of injector and a non-cavitating fuel pump. Porting is used for the intake function and a type of sophisticated poppet valve for exhaust. The usual cooling fins are replaced by a porcupine-like mass of steel pins (spot welded in place — cheaply) that create turbulence to more efficiently cool the heads. Further, the engines are completely mass balanced by means of rotating counter weights, allowing successive firing of cylinders rather than the more common simultaneous firing. Smoother, more efficient operation is the payoff.

Ed has also designed a very simple single place airplane to be powered by the 45 hp engine. Utilizing slats, slotted flaps and drooping ailerons, it would have a landing speed of less than 35 mph . . . yet would cruise over 150.

Now, get this: Following an abortive attempt to get the engines in production in Taiwan (politics and other problems not related to the engines, themselves), Ed is looking for capital to get them going here in the U.S. — also for the little airplane. With everyone jumping into the ultralight field these days, and the increasing sophistication of the type, Ed's engines and airplane seem to be one of those "right idea at the right time" situations that come along once or twice in a generation. That, combined with the promotional potential of being able to tout the designs as coming from the mind that conceived the P-51, is mind boggling in the extreme. **Serious** entrepreneurs can contact Ed Schmued at 2215 Zabyn St., Oceanside, CA 92054. Phone 714/721-2948.

Of course, we also reminisced a bit on Ed's involvement with the P-51. He says the airplane's success was based



**Ed Schmued, left, and Bill Morrisey.**

**The Morrisey Nifty**

**Bill Morrisey's OM-1**

**There it is, folks, framed by the Grizzly, Greater Metropolitan Mojave, CA.**

on its extreme simplicity of design. It was something "any first year aeronautical engineering student would have had the background to have designed". He didn't say it, but, of course, we know it took Ed's genius to combine the simple elements in the right way to result in so brilliant a design as the Mustang.

Ed took a pretty great personal career risk during the crash program that resulted in the -51. His boss at North American, Dutch Kindelberger, was very uncertain about the use of the then new laminar flow airfoil. Ed wanted to use it, so he assured Dutch that if the laminar flow wing didn't work, he could build a conventional wing within the impossibly tight time frame they had to deliver a flyable prototype. Ed admits today that there was no way he could have delivered. He was gambling with fearfully high stakes . . . but, fortunately, he won.

## RUTAN AIRCRAFT

The tiny railroad town of Mojave, CA lies at the western edge of the Mojave Desert . . . which is defined by a mountain range that connects the Sierras and the San Gabriels. The major pass through this range is the Tehachapi. It lies in roughly an east/west orientation and acts as a sort of natural venturi for prevailing westerly winds. Mojave (the town) lies right at its discharge end.

What does that tell you?

There may be windier places than the town of Mojave, but I've never visited one of them. I understand that like sailors who have to lose their sea legs once they go ashore, Mojave residents have to adjust to walking fully erect when they visit other parts of the world — like Lancaster . . . or LA. As you might imagine, this presents some rather unique problems for Burt Rutan and his cohorts at RAF. With aircraft capable of non-stop flights to Oshkosh, this means Burt, Dick or Mike's first steps after emerging from their EZs or whatnot at Wittman Field will still be on their Mojave "windlegs". If you see any of them teetering around at a decided list . . . at least now you know why!

(Boy, will I hear about that!)

In a daring display of our determination to bring you news of the latest happenings in the world of sport aviation, Ken Brock, Marie, Golda and I risked all to fly into Mojave on Wednesday. It was a smooth flight up from LA, but when we began our letdown into Mojave, we began to hit turbulence at around 4500 feet. Fortunately, the wind was right on 25, so we got down safely, if not particularly gracefully.

Ken parked the 210 on the ramp in front of RAF and we walked in on a celebration of Larry Lombard's birthday . . . just in time for the cake cutting! Afterwards, we ventured out into the shop for my first look at the new Solitaire and the scaled down, jet powered "New Generation Trainer (NGT)" RAF designed and tested for Fairchild. The Solitaire is Burt's entry in the Soaring Society of America's design competition, and had just been flown for the first time by Mike Melvill a few days before. He was delighted with it . . . and amazed at how glitch free the first flight had been. The Solitaire appears to be a simple straight wing canard, with a prop that pops up out of the top of the fuselage . . . exactly like a nose gear drops down. Actually, the aircraft incorporates an exceedingly complex, computer derived aerodynamic interrelation between the canard and the wing. That it has literally flown right off the drawing board is just one more testimonial to Burt Rutan's genius . . . as if another were needed after his past accomplishments.

Later, we were taken into the inner sanctum of Burt's newest venture, a company called Scaled, Inc. In early June, Scaled consisted merely of a suite of offices . . . but inside was a pretty good inkling of what it is shortly to become. Not a drawing board was to be found . . . nor slide rule . . . nor T-square. Indeed, these staples of aeronautical design in the days of yore would have been as out of place as a stone axe in Burt's new skunk works. Computer terminals and all sorts of computer assisted design (CAD) and drafting equipment are the tools the aircraft of tomorrow will be designed with . . . and Scaled, Inc. will be right out there on the leading edge of design and development with them. CAD has already been used to a degree in the design of the Rutan aircraft of the last couple of years, essentially since the Long-EZ.

When all of Scaled's equipment is in place, all number crunching and almost all drafting will be done by computer. The firm will be engaged principally in contract work for industry — doing projects like the Fairchild NGT — but, of course, the equipment and expertise will be available whenever Burt gets the urge to whip out another

homebuilt design.

All this hardware (and software) is impressive, but it is, after all, just a collection of tools. They cannot dream, they cannot imagine things that have not been imagined before . . . it takes a creative mind to provide those functions. Burt Rutan is still the "force", the source for all that will eventually transpire at Scaled.

Meanwhile, back at the airport, the wind was approaching gale force. RAF's metal building was creaking and moaning like some great wounded beast . . . and Ken's 210 needed only a little more angle of attack to be easily flying in its tie down chains.

Just the kind of conditions we needed to fly the Grizzly, Burt sez — so, we go do it!

It wasn't easy, but we extracted the Griz from its T-hangar and got its nose headed into the wind. Burt, Ken and I clamored aboard, fired up and waddled out to the runway, the wind trying very hard to skid the tailwheel tire sideways. Finally lined up into the wind — which was about 30 degrees or so across Runway 25 — we sat there for a few moments, fascinated by the airspeed indicator's excursions past the 40 and 50 mph marks!

"Everyone ready?", Burt sang out — with more than a little tongue in cheek. With no one clawing at the hatch release to abandon ship, he firewalled the 180 Lyc and we were underway . . . slowly. The Grizzly is a big airplane and with the wind we were bucking, acceleration was hardly scintillating. After about two or three fuselage lengths, however, we levitated . . . no rotation in the normal sense, just a level attitude levitation. I popped off a few pictures as Burt turned to downwind, at which time he turned over the controls to me. We were in rather severe turbulence, but, surprisingly, the Grizzly was riding it quite well. Burt had forwarned me to expect a "belt hanger" sort of ride. The Griz has a relatively light wing loading, so is highly susceptible to gusts, but I found it to be surprisingly mild in its reactions to them. About the best analogy I can think of is a comparison of the rough air characteristics of a Cub vs an Aeronca Champ. A Cub jerks and bobs like a cork, whereas a Champ kinda wallows along in turbulence. The Grizzly is more like the Champ. Not bad at all.

Burt took 'er back for the landing (thank goodness!), cranked out the HUGE flaps and planned his touchdown for the runway's intersection so we could aim in whatever direction we needed to. We could have made do with a couple of auto parking spaces, it turned out! The airspeed indicator was showing 80 or so, but we touched down at the closest to zero forward speed I've ever experienced in a fixed wing aircraft. The actual touchdown was like dropping an armload of loose sticks — things were touching and bouncing and clattering in all directions! Then we were stopped, just like that. There was nothing to do but sit there laughing like crazy. Burt reset the flaps for take-off and we defied the wind gods once more — this time, however, just a sideways slither in ground effect down to the taxiway nearest RAF's office.

Trying to draw conclusions about **any** airplane flown under those wind conditions would be grossly unfair, but I think we saw a rather remarkable example of low speed controllability during our two landings — and some sharp piloting on Burt's part. I hope to get to fly it under more normal conditions some day and report the results to you here.

I had intended to visit Tom Jewett and Gene Sheehan at their Quickie Aircraft facilities down on the other end of the ramp, plus a couple more projects in the hangars, but knowing that when the wind kicks up at Mojave the way it was doing, it characteristically just keeps getting worse, Ken and I decided we'd better be departing while we still could. The girls were wondering when the next bus left for LA.

Once up out of the turbulence layer, things mercifully smoothed out. We skirted around Edwards AFB — with its space shuttle runways easily visible — and headed for El Mirage dry lake. Ken has a cabin there and had just erected a 50x100' hangar beside it. The famed lake bed is where he trains pilots to fly his KB-2 gyroplane and he needed secure storage for his two-place gyroglider, tow vehicle, etc. We landed on the lake bed . . . and as Ken had predicted, the winds were nothing like those at Mojave. El Mirage is 40 miles downwind of the venturi, he says, and winds normally aren't as severe on a given day as at Mojave airport.

El Mirage dry lake is legendary to those of us who used to read Hot Rod magazine back in the 50s — when guys used to stuff a flat head Mercury V-8 and the absolute minimum running gear into a surplus drop tank and run it against the clock there. Well, surprise, they still do it! We were there during the week when the place was deserted, save for a research crew launching a drone of some sort, but Ken says on weekends, the place is a zoo — alive with gyroplanes, ultralights, sand sailers, dune buggies, motorcycles, etc.

We blasted off again — the lake bed is like concrete, I found — and shortly were touching down back in the LA basin. We had transitioned again into a totally different climatic zone . . . with no wind!

## MERCED '82

On Thursday morning, I made a couple of fast trips to visit people located close by Ken's Stanton, CA shop — Jeannette Rand and Bob Lovejoy. Joe and Lucy Alvarez are also nearby, but I knew they were already on the road to Merced and that I would see them there with their newest Polliwagen.

KR-2s are being completed in greater numbers than ever before, Jeannette told me. There are 8 of them flying at the Corona, CA airport, with more nearing completion. The KR-3 amphibian, I learned, is at Gilbert Duty's shop in North Carolina. He and some fellow KR enthusiasts are finishing it and hope to get it in the air this summer. Duty is a VW engine converter well known to East Coast builders. The tri-gear KR-2 is currently on hold, awaiting a gear from its New Zealand developer.

Ever heard of Bob Lovejoy? You should have, because he is the fellow who designed the original Quicksilver back in hang gliding's infancy. He sold the rights along the way and, somehow, his name has been dropped from the "histories" that are being spewed out these days. You are going to be hearing a lot about him in the months ahead, though, because he has a new ultralight flying — a 3-axis job of remarkable simplicity. Bob is a toy designer for Mattel — the Intellivision computer game is one of the things he has contributed to.

Then, it was time to head for Long Beach airport and roll out the ol' 210 again. We leapfrogged the San Gabriels

**Bob Lovejoy's new 3-axis ultralight.**

A couple of rows of antiques at Merced.

once more and landed on the El Mirage lake bed. It would be our launching point the next afternoon for Merced . . . a precaution against our getting socked in the LA basin at departure time. Ken and I spent Friday morning visiting all his El Mirage neighbors, most of whom have airplanes, and the El Mirage airport, site of this year's Southern California Regional EAA Fly-In, October 1-3. A training base in WWII, the airport is located on the south edge of the lake bed. Gus Breigleb, one of the soaring world's living legends, purchased the place in 1946 or so and turned it into one of the nation's premier soaring centers. He sold out a few years ago and lives just across the road from the airport entrance. I had the pleasure of meeting Gus that morning, but not expecting to do so, I didn't have my camera or tape recorder along. I won't make that mistake a second time. Gus designed a series of gliders, beginning in the late 1930s, and marketed many as kits. Among other things, he helped provide CAA with the experience that made it easier for Bob Burbick to draft . . . and sell . . . the homebuilt regulations still in use today.

And, then, off for Merced. I flew this leg and as I approached the airport there — for my first time — I noticed some strange patterns in the fields just west of the runway. Getting closer, I could see they were flooded — yes, rice paddies! They've got everything out there, I tell you!

It's always exciting attending a new (to you) fly-in for the first time. The field was already full of show planes by the time we arrived and I could see a bunch that had not been at Watsonville. Hot dog! I was impressed with the airport layout — it's a good place for a fly-in with good parking for itinerates as well as showplanes. I was also impressed with the number of portable hangars in use on the airport. One runway had been permanently closed and it was being used to spot rows and rows of the towed in T-hangars. This was a phenomenom we observed at almost every airport we visited in California — so, naturally, it will become a trend that will sweep the nation soon.

We had just enough time to get checked in before getting in line for the free spaghetti and beer feed the Merced sponsors put on each year for early arrivals. It's quite a drawing card . . . as evidenced by the fact that the first person I ran into was J. R. Nielander — from Florida!

The next morning we were out bright and early "to get amongst them airplanes!" It took all day long just to make one complete turn of the show plane field. There's a lot of fly-by activity at Merced — more than I've seen for a while — including a lot of formation flying by type clubs. One of the more memorable sights was 7 PT-22s clattering by in a nice V . . . those Kinners sounding like a whole field full of John Deere tractors straining at the towbar!

I did a number of interviews at Merced, which you will read elsewhere in this issue, so I'll leave further comment on the airplanes for those pages. We attended the awards banquet that evening at the local fairgrounds — they really have some fancy fairgrounds in California, at least at Watsonville and Merced — and saw Jim Smith win the top homebuilt award for the second weekend in a row for his Marquart Charger. The top vintage award went to Harold Kindsvater for his superb Me. 108 restoration (see articles). The speaker was an old friend, Dave Sclair, publisher of Western Flyer.

The 210 was off and running early on Sunday. My first time at Merced was very enjoyable — it's a well attended, well organized event held on a beautiful, nicely manicured airport. We had heard it could be boiling hot down there in the San Joaquin Valley, but it was absolutely beautiful all weekend — even a little cool in the mornings.

I'll go back . . . and I recommend Merced to all of you.

Our trip home to LA was via a detour north to Cameron Park, an airport community like nothing I've ever seen. Taxiways running through the residential area are wide enough for two lanes of auto traffic in the center . . . and an airplane on each side! They have Xs on the taxiways to keep pilots from landing on them, thinking they are parallel runways. It's an expensive place, but must be great for those who can afford it. We were there to visit a friend of Ken's, Jim Jensen, who had just completed a stunning brown, black and white Marquart Charger. Ed's design is popular out there!

The flight south was uneventful — saw just one other lightplane, a Mooney zipping by below us as we traversed the LAX VFR corridor. This, mind you, in what is supposed to be one of the world's busiest flyways . . . on a nice Sunday afternoon. Crowded sky, eh?

## HOMEWARD BOUND

Republic ended our California sojourn the next morning, winging us home to Milwaukee. It had been a great week and a half — great fly-ins, great weather (most of the time) and tremendous hospitality on the part of all we met. That goes double, of course, for our hosts, Ken and Marie Brock.

Actually, it's tough covering all these fly-ins, running all over the country, meeting all these people, photographing all these airplanes . . .

But, Lord knows, **someone** has to do it!!

# CHAMPION CHARGER


The sensation of the West Coast fly-in circuit this year is a magnificent Marquart Charger, completed late last year by Jim Smith of Petaluma, CA. It was named the champion homebuilt at both Watsonville and Merced and likely has collected several more trophies by the time you are reading this.

Jim Smith is still another name to add to that list of virtual unknowns who almost annually seem to burst upon the sport aviation scene with aircraft so marvelously crafted that it is hard to imagine how they will ever be topped. Usually, we haven't heard of the builders before because they have been buried in their workshops for as much as a decade creating their works of art. And more often than not, the project is their very first . . . proving, I suppose, that a virtually limitless number of extremely talented people are out there in the world's population — in need only of a constructive outlet for their energy, creativity and craftsmanship.

Jim Smith was born in Oklahoma, but his parents soon moved to the San Francisco area. He acquired his interest in aviation in the late 30s from watching the China Clippers winging in and out of their famous Treasure Island base in San Francisco Bay . . . and, later, the P-39s and P-38s that operated out of Santa Rosa during World War II. It was during this period that he picked up the notion that someday he would build his own airplane and fly it. He would tell his father of his intentions and would be answered with, "As long as you have a dream, stick with it." Stick to it he did . . . the dream, at least. Even Jim eventually came to wonder if he would ever progress beyond that stage.

After he grew up, he moved back to Oklahoma and worked for a number of years as a mechanic for United Airlines. He met and married his wife there . . . and transferred to her the occasional telling of his dream.

"Someday I'm going to build and fly my own airplane . . . someday."

The years rolled by, the Smiths were blessed with two daughters and, ultimately, the family moved back to the Bay area in California.

Jim had left the airlines for work as a professional auto mechanic . . . where he could make more money . . . and in 1962-63 began taking flight training. He soloed in a Cherokee 140 and after getting his license, began attending area fly-ins, like Watsonville and Merced. He quickly found that flying in with a spam can meant he was merely a spectator . . . and he wanted to be a part of things. He had never built or restored an airplane at that point, but he had worked on them and had an idea of his own abilities — enough that he believed he could build a better airplane than most he very carefully inspected at the fly-ins.

From then on, his wife began hearing his "Someday . . . someday!" refrain more and more often. Then one day in 1972 she called his hand.

"When are you going to start your airplane?"

"Someday . . . someday."

"Well, today seems like as good a day as any to start."

That little challenge came like a thunderbolt from the blue. It changed Jim's life in an instant . . . and made him realize that all he had been waiting for all those years was just such a nod of approval. He knew what sacrifices his family would have to make in order for him to realize his dream, and he had never been able to bring himself to the point of asking his loved ones to make them.

The very next weekend Jim was in his truck and on his way south to LA and FlaBob Airport to buy plans from Ed Marquart. Ed's biplane, the Charger, had already caught his fancy. Its beautiful lines and the wonderful flying qualities everyone attributed to it certainly were factors that affected his decision, but almost as important were the lengths Ed had gone to in order to make all the parts and components normally subject to wear and tear as easily accessible as possible. Jim had never forgotten the hours he had spent with his head down in dark, smelly cubbyholes trying to service some system or another of an airliner . . . so that the Charger's swing-up fuselage panels seemed inspired in Heaven.

Back home in Petaluma, and with complete backing from his family, Jim plunged into his project. In the early days of the Charger, there were no kits of any sort so everything had to be built

from the plans. This suited Jim fine, because he had waited all his life to build his airplane and he intended to do it ALL himself.

A lot of special effort went into the Charger. The fuselage frame was painted with ultra hard epoxy to minimize chipping, a full set of controls and instrumentation was installed in each cockpit to make the airplane fully operational from either seat and all the wiring, lines, hoses, etc. that run down the right side of the fuselage (under the outer panels, of course) were so neatly and symmetrically arranged that they look like a large size printed circuit board!

The Charger was equipped with a Lycoming 0-320 E3D (150 hp) and a stock Cherokee 140 metal propeller. All the standard accessories were retained with the exception of a GM alternator he installed. The oil cooler was mounted as far away from the engine and its heat as possible and an electric boost pump was installed. Jim built his own fuel tanks — a 28 gallon main tank in the forward fuselage and a ten gallon tank in the top wing's center section.

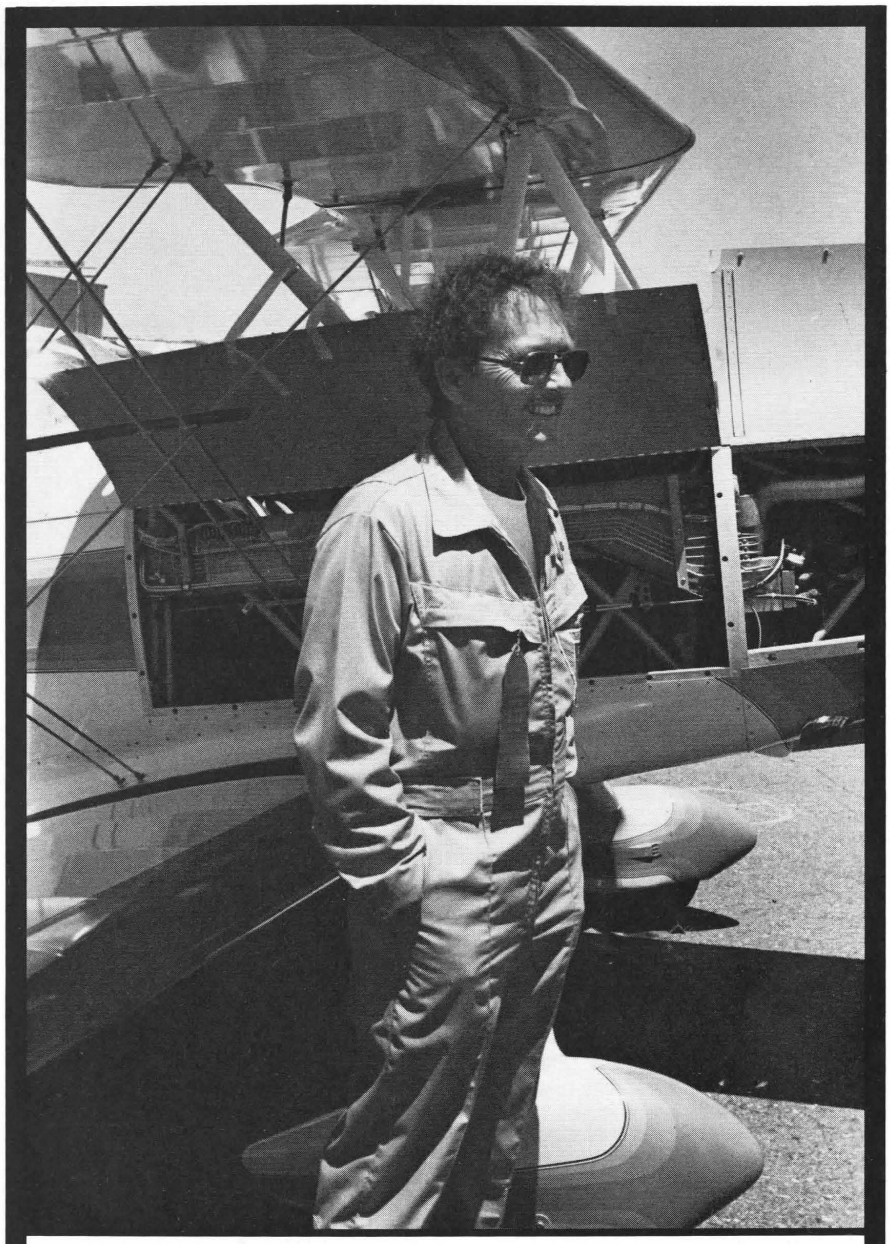
The airframe was covered in the Stits process — and painted in tasteful earth tones, hand rubbed to perfection.

One of the outstanding features of Jim's Charger is the array of beautiful fiber glass fairings he has made for almost every place on the airframe where its various parts and pieces intersect — lower wing roots, landing gear legs (at the fuselage and at the wheel pants below), wing and cabane struts, etc., etc. He spent over a year making the master molds for them, and you can bet there are going to be MANY calls for continued use of them to make fairings for other Charger owners.

In the beginning, Jim worked in his garage, but, ultimately, there came a time when the airframe parts grew too large for the space available. He solved this problem by renting a 40'x80' chicken house out in the country from Petaluma. The Charger was finished there . . . after 8½ years of work. In the spring of 1981, it was taken to the airport and made ready for flight.

During the taxi tests, the one and only problem that has surfaced to date reared its ugly head — tailwheel shimmy. The Charger had originally been fitted with a small Scott tailwheel, but Jim had a large Scott also — just in case something like this developed. It was installed but, alas, the shimmy persisted. A call to the Scott factory revealed that the tailwheel unit's kingbolt had to be installed at a vertical incidence of zero, plus or minus one degree; otherwise, it would launch into its jitterbug at every opportunity. Adjusted to the proper angle, the tailwheel has given no more trouble.

The biplane had been carefully rigged with . . . would you believe? . . . a 2 foot carpenter's level, but, apparently, Jim really knows how to use one. It flew hands off from the instant of the initial lift-off and has never been touched since . . . just like an airplane tweaked to perfection with a transit and all sorts of other sophisticated gadgets.



**Jim Smith**

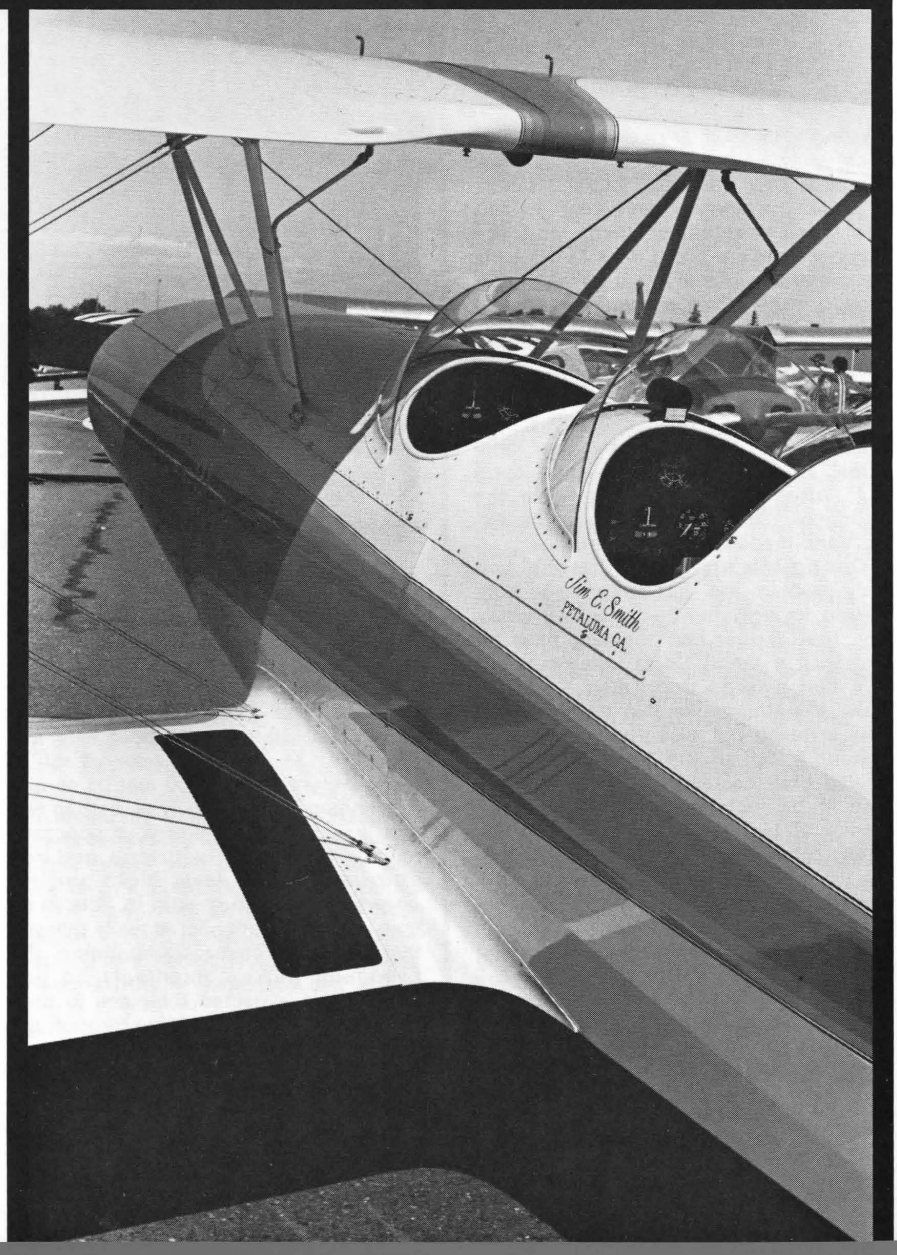
At Merced in early June, the airplane had been flown about 50 hours. Jim says he regularly sees 1500 fpm on climbout and 125 mph, straight and level, at 2450 rpm. Its best true airspeed is 131 mph. The take-off roll at gross weight is only 300 feet or so and the landing roll can easily be held to 500 feet if you are watching your approach speed, he says. It will loop and roll effortlessly from level flight and recovers from a 4 turn spin in little more than a quarter turn. Jim is really pleased that in normal cruise configuration, the Lycoming purrs contentedly on just 7.5 gph. He expected a biplane to be a little more expensive to drag through the air, but maybe all that work on fairings is paying off, he suggests.

The empty weight of N26JS came out at 1158 pounds, which is a good 150 pounds more than Ed Marquart's prototype. That airplane was powered with a 125 horsepower Lycoming, however, and did not have radios. Jim figures he picked up his extra weight with his larger engine, his second full set of instruments and fairings. The basic airframe was built as light as possible, so he doesn't think he suffered there. At any rate, performance is quite good and he is thoroughly satisfied and enthused with the airplane.

So, it turns out, were a lot of other people, including the judges at this spring's Watsonville and Merced flyins. At both events, Jim was awarded the trophy for the best homebuilt — over, I can tell you, some pretty formidable competition. After his win at Watsonville, Jim told his boss at the Cadillac dealership where he works to expect to see him off for Oshkosh come

**". . . like a printed circuit board."**

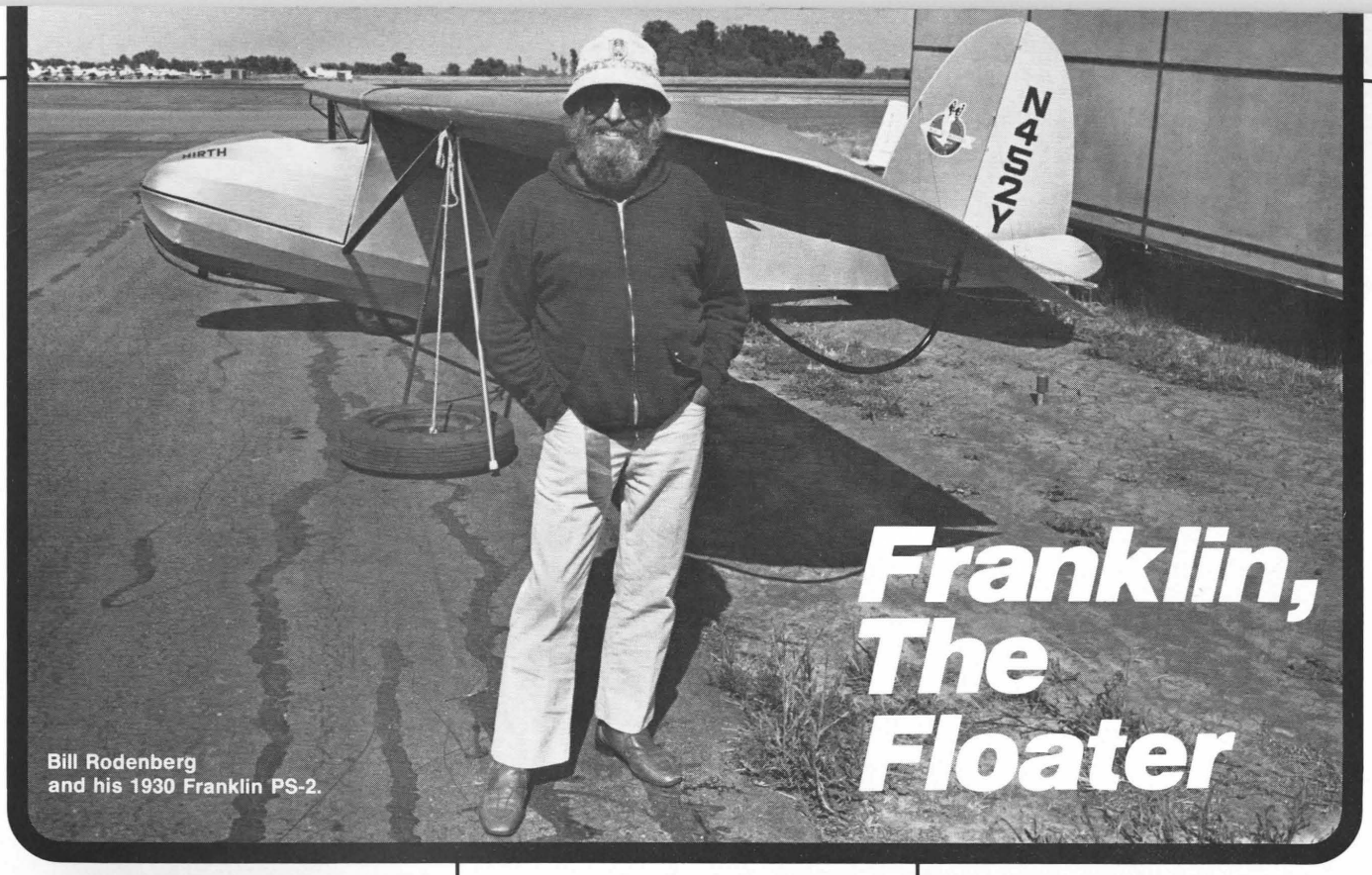
**Beautiful fiberglass fairings really enhance the Charger's looks and performance.**




the last week in July. He told me at Merced the following weekend that he wanted to take the Charger back east to show the rest of the country that there are some pretty decent airplanes being built on the West Coast these days . . . which is one of the classics of understatements I've heard lately!

His greatest joy, however, comes from simply watching people's reactions to the airplane and hearing their remarks about it. Jim is a modest person, but he knows how much of his heart and soul he poured into his Charger . . . for over eight years. He knows that people recognize and appreciate that kind of exceptional effort. He also knows that someone may be inspired by his craftsmanship to the extent that he will go back to his shop, determined to build something even better. In that way, Jim and his Charger will become links to the future, to ever higher standards of homebuilt craftsmanship — just as were those who inspired him a decade ago.

It's a little slice of immortality, really, that no one can ever take away from him.




# Franklin, The Floater

Bill Rodenberg and his 1930 Franklin PS-2.

Meandering through the rows of showplanes at Merced this spring, I spotted an unfamiliar vertical tail profile several aircraft down the line from my vantage point. Walking closer, I quickly discovered why it had been unfamiliar . . . I had been trying to mentally attach it to an airplane, but it belonged to a glider.

A 52 year old glider!

It turned out to be a 1930 Franklin PS-2, a utility glider quite popular at places like Elmira, New York's legendary Harris Hill during the '30s. Its owner, Bill Rodenberg, a collector of antique gliders and sailplanes and owner of Aero Pines airport near Brownsville, CA, was gracious enough to recount its history for me.

The PS-2 was pushed out the factory door on August 20, 1930 and sent on its way to its first owner, the Bowlus Hirth School of Motorless Flight, located on the old North Beach airport, now the site of La Guardia airport. Sometime later it was sold to the Air Harbor Gliding and Soaring Club, which, in turn, sold it to a fellow named Bill Rodenberg in 1934. Bill rebuilt the glider in his spare time and flew it on Memorial Day of 1937. He used the little tube and fabric floater — it weighed just 220 pounds empty — until 1945 when he relicensed it and sold it to the M.I.T. Glider Club. In June of 1948 Bill joined the postwar exodus to California and lost track of his old Franklin.

Twelve years later, in 1960, he was thumbing through an issue of **Soaring** magazine and spotted an ad for a PS-2 located in Massachusetts. He had a hunch it might be his old bird, so he corresponded with the owner and later flew back east to verify what he was being told. Sure enough, it was his PS-2. Bill bought it and through the good offices of a friend who was a captain for American Air Lines, got the glider air freighted to San Francisco on a weight only basis. Cost him all of $44.00.

Bill began his second restoration of the glider shortly after he got it home to California, but work progressed in fits and spurts — with some **long** gaps between shop sessions. It wasn't until 1981, in fact, that it was finished. Bill flew it for the first time on August 20, the PS-2's 51st birthday. This year, he displayed it at Watsonville, then took it home and flew it on Memorial Day, the 45th anniversary of **his** first flight in it! The following weekend he trailered it south to Merced, where I spotted its outsize silver tail and was attracted to it like a moth to a flame. (I had missed it during Bill's brief stay at Watsonville.)

When he restored the glider, Bill came up with a nostalgic compromise on its finish. It was painted silver during all of its early career, but had different markings at various times. Bill therefore painted and marked the right side to represent the glider as it appeared when it left the factory. The left side has the markings of the schools that owned it — Bowlus Hirth and Air Harbor Gliding and Soaring Club. A little recognition for all.

This was my first opportunity to inspect a PS-2 (there are just 6 of them in FAA's Civil Aircraft Register). Machines like this . . . "utility" gliders, they were called . . . were designed for training and simply getting aloft and flying around the take-off point as long as possible. In the depths of The Great Depression just getting to fly was the primary object . . . so you wanted to squeeze every minute you could out of each flight. To achieve this "more bang for the buck" type of operation, wing loadings were as low as designers could make them. Would you believe 2.2 pounds per square foot for the PS-2!! Now, mind you, this is an aircraft with a span of 36 feet. It has a fabric covered steel tube fuselage and a strut braced, all wood, fabric covered wing. Empty weight is 220 pounds and gross is 400. The wing area is 180 square feet and the aspect ratio is 7.2. According to 1930 specs, the L/D max is 15 and minimum sink is 2.5 feet per second. In other words, you should have been able to soar this thing over a Boy Scout's campfire!

Floaters, they were called — and for good reason.

220 pounds empty and a wing loading of 2.2 lbs./sq. ft. are numbers we associate with ultralights these days . . . but the PS-2 is no flimsy, floppy flying lawn chair by any stretch of the imagination. It's built like an Aeronca C-3 or an E-2 and appears to be quite sturdy. I peered inside the fuselage but found nothing unusual — just a nicely triangulated steel tube framework and some very simple wood spacers and formers to support the fabric in places. For me, the message of this 52 year old wonder is that you don't have to stray from conventional methods and materials to build ultralights. There are modern composites and there are the good old ways to do it . . . **safely**.

If any of you are interested in vintage gliders and sailplanes and you aren't aware of it already, there is a Vintage Sailplane Association. They print a very interesting quarterly publication, Bungee Cord, and stage vintage sailplane meets, usually at Harris Hill. For more information the address is 3103 Tudor Road, Waldorf, MD 20601.

# MAGNIFICENT MESSERSCHMITT


Winner of the top award for vintage aircraft at Merced '82 was a 1945 Nord 1001 Pingouin I, the post-World War II French built version of the Messerschmitt Bf. 108 Taifun. Beautifully restored by Harold Kindsvater of Fresno, CA, it was painted in a very carefully researched German air group camouflage and marking scheme — that of JG-54 when it was in action on the Eastern Front against the Russians.

Willy Messerschmitt designed his 108 in 1933 and had it flying early in 1934. Its principle use was as a liaison plane for the German military and it saw service on all fronts right up to VE Day. In 1942, production of the 108 was transferred to captured French factories and 170 Argus powered Me. 108Bs were produced by the war's end. To differentiate the French built 108s from the earlier German versions, they were designated Nord 1000s. After World War II, the French engineered an engine change, substituting their 240 hp Renault 6Q-10 for the no longer available German Argus. The result was the Nord 1001 Pingouin I. A later version, the Nord 1002 Pingouin II, was powered by the Renault 6Q-11. A total of 285 1001s and 1002s were built between late 1945 and 1948 when production ended.

Most of the Nords went to the French navy for training and liaison work and served faithfully for over a decade. Finally, in the early 60s, a number of them began showing up in civilian hands in Europe . . . and were immediately impressed into duty as movie stand-ins for their more illustrious but virtually extinct kid brother, the Me. 109. Remember "The Longest Day", "633 Squadron", etc.? Inevitably, a few began showing up on these shores, including at least one that was ferried across the North Atlantic. This Nord 1001, Serial Number 188, was eventually bought by author Martin Caidin and became a familiar sight in the New York City area. Registered N108U, it was later sold to John VanAndel and was converted to a 400 Comanche engine. John brought it to Rockford in 1968 and had a blast playing the "Black Baron" all week. Sometime later, the airplane was destroyed in a hangar fire . . . and its N number, 108U, went into the inactive file.

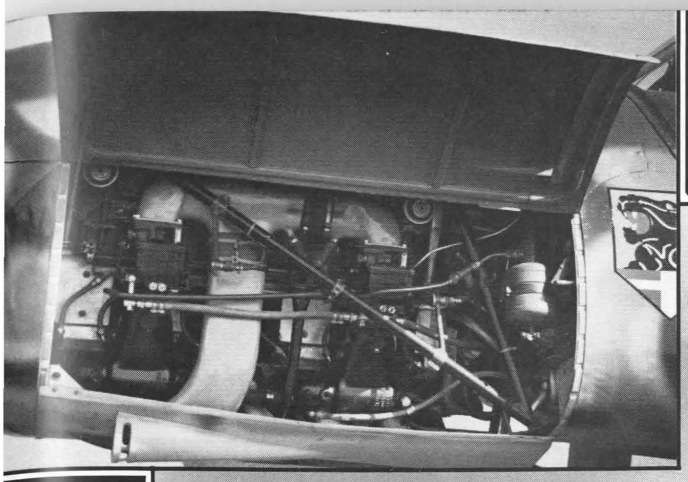
In 1979 Harold Kindsvater heard the hulk of a 108/Nord was to be sold as a part of the estate of Pete Sherman, who had been killed in the crash of his P-38. Harold traveled to Orlando, FL, bought the remains and trailered them home to Fresno. He registered his airplane as N108U — not knowing there had been another Messerschmitt with the same N number a decade earlier. He was surprised sometime later when he came across an article in **Air Progress** on Martin Caidin's N108U . . . but that was already ancient history.

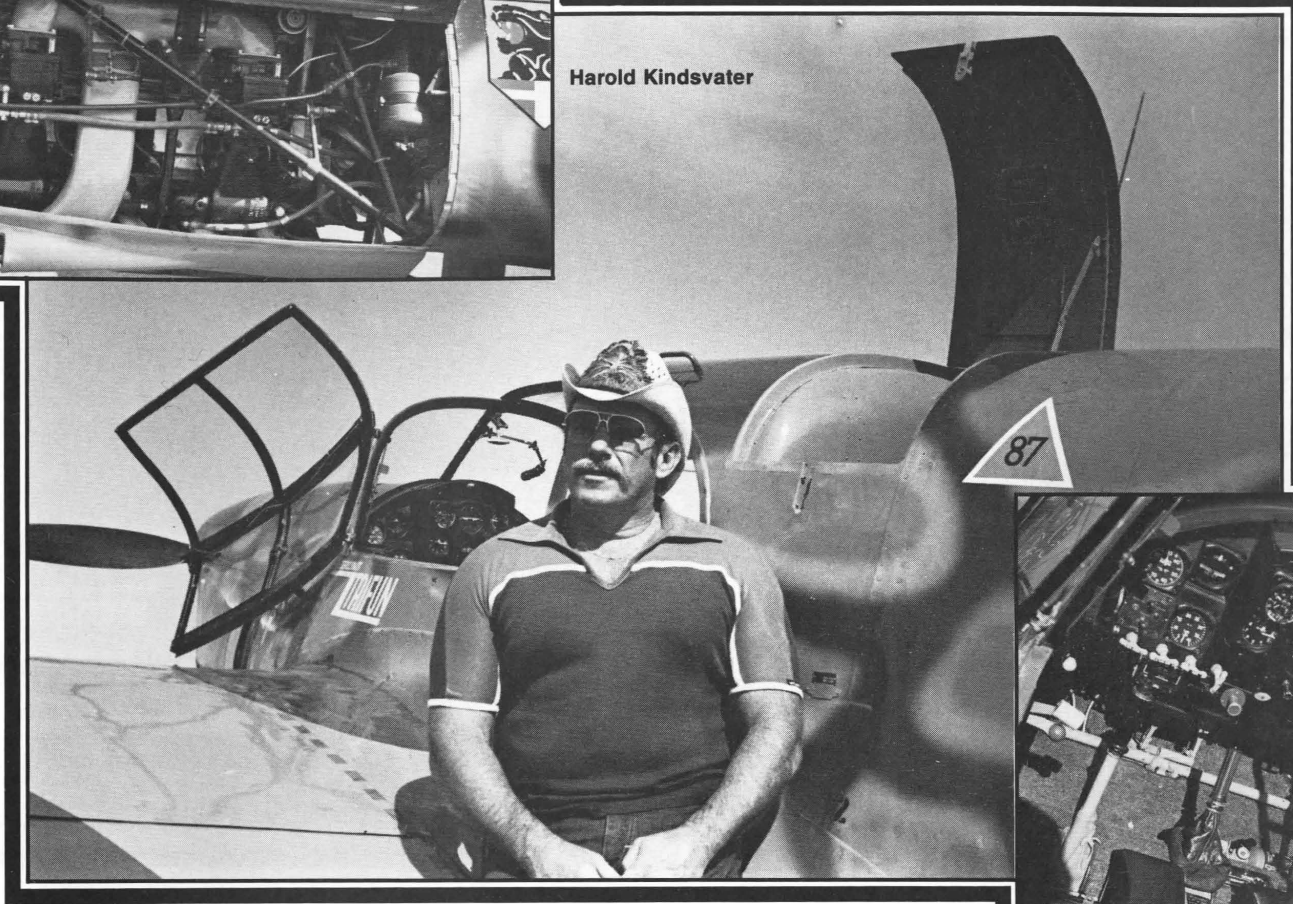
Harold spent the next 3 years thoroughly researching the technical aspects of the airplane, traveling to Europe in search of parts and completely remanufacturing the airframe and engine. Fortunately, he is in the business of manufacturing high performance goodies for drag boats . . . because it was necessary for him to use this capability to make a lot of parts that simply couldn't be found.

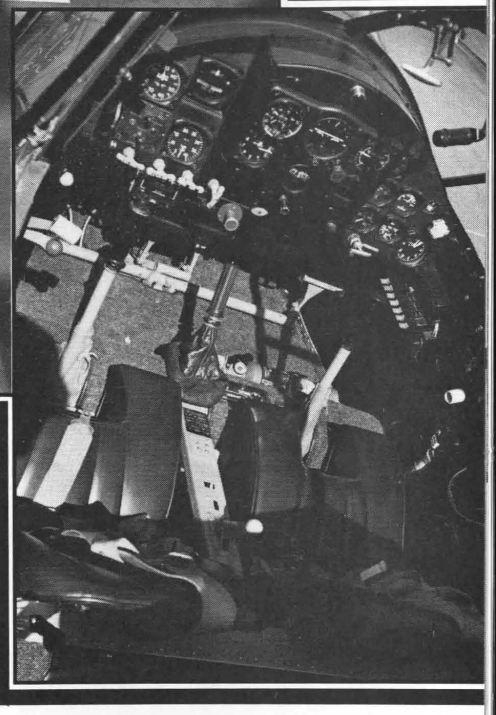
Things turned up from all over. A vertical fin was obtained from Purdue University and a few engine parts were scrounged from sources around the U.S. The rest, however, had to be hunted down in Europe. A big break came when Harold made the acquaintance of Englishman Lindsey Walton, who owns a flyable 108 and a spare one he keeps for parts. Walton not only shared his parts, but also gave Harold a check out to prepare him for flying his own airplane.

Even though his airplane was a postwar Nord, Harold had every intention of painting it up as a German military aircraft. Throughout the restoration period, he spent his evenings researching paint schemes, colors, markings, upholstery materials, etc. He was determined to end up with an airplane as authentically representative of a wartime 108 as humanly possible.

First, the airframe went down to bare metal, then was repaired where needed, bad parts and components were replaced or rebuilt, as required, and it was acid etched, zinc chromated and primed. The camouflage color scheme was done in Du Pont Centauri acrylic enamel . . . and finished with a coat of clear Imron. Two solid months were spent painting the airplane, applying the squadron crest, markings, stencils,





etc. Harold's daughter cut out the stencils by hand — which were in German, of course.

All sorts of effort went into other areas, as well. The seats, for instance, were covered in leather, with the pleats correct in dimension to the exact millimeter. And the wheel wells were lined with a canvas dust cover of exactly the right shade of green . . . and laced into place by leather thongs of the correct size, weaving through and around hooks and eyelets of the precise spacing of the German originals.

Some of the most difficult tasks involved fairings, of which the 108 was liberally blessed. The original wing tips, big root fairings, etc., had been done in a magnesium alloy and were literally rotten when Harold bought the airplane. Every one of them had to be replaced by new parts, pounded out of aluminum the way craftsmen of the 20s and 30s used to do it. The greenhouse style canopy required a lot of attention, also, including the forming of a lot of new Plexiglass panels.

The Renault engine, an inverted, inline, aircooled six, was found to be in surprisingly good condition, internally. A lot of items that bolt on the outside were missing, however, and had to be scrounged up or made. The prop required an overhaul, but, fortunately, parts were available in Europe . . . if you could afford them. Blades go for a grand apiece!! Like most engines of its day, the 6Q-10 has a short service life by modern standards. TBO is 600 hours and Lindsey Walton has advised Harold to avoid extended operation in excess of 2000 rpms. Valve seats, he has been told, are prone to go bouncing around inside the cylinders on occasion.

A few concessions were made in the restoration, of course. They usually are if the owner intends to fly the airplane very much. Harold does . . . so he installed mostly U.S. instruments and rerigged the tailwheel to a full swivel configuration. It was very difficult to taxi on pavement before the modification.

The pristine new/old Messerschmitt was test flown this past March — the day the Space Shuttle landed at White Sands, NM.

"I figured if those guys were going to do it that day, I would, too!"

With the benefit of his experience in Lindsey Walton's 108, Harold had little trouble flying his airplane . . . except for landing on pavement.

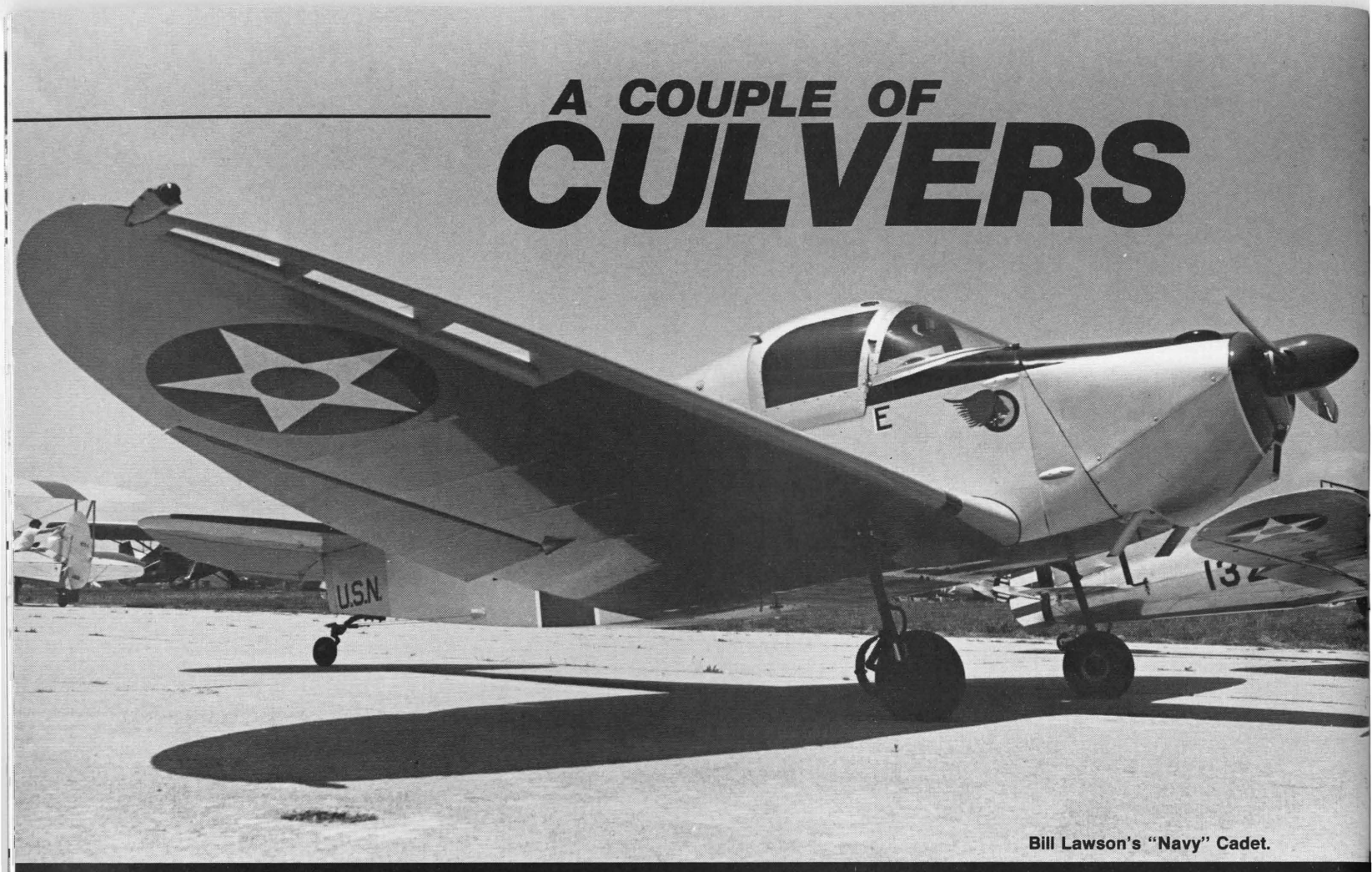
"I flew Lindsey's airplane off grass and had no trouble at all — in fact, I made better landings than in a tri-gear job. But everytime I land it here on pavement, it's bouncing around and having a devil of a time. I don't know if it's the airplane or me . . . I think it's me!"

Harold's being modest, of course, because the airplane's splayed out, impossibly narrow gear was never intended for paved runways. There weren't many of them around in 1933.

Merced '82 was the public debut for N108U and Harold came away from the occasion with the Mayor's Trophy, the top vintage award presented at the fly-in. A short time later, another first place trophy was copped at the Porterville, CA fly-in. There'll be a room full to come, I'm sure . . . at least until Harold gets his **next** project flying. He has already begun work on a Fiesler Storch — a German D model used as an ambulance plane. It's going to be complete right down to a real machine gun in the rear of the greenhouse, he says.

Look for it in about 2 years, judges, and get those trophies ready!

# A COUPLE OF CULVERS




**Bill Lawson's "Navy" Cadet.**

There'll probably never be a sportplane introduction to top that of Burt Rutan's VariEze at Oshkosh in 1975. It's "other world" appearance, an attempted non-stop flight from California and, before the week was out, a world's distance record were positively electrifying to the quarter of a million people who were there witnessing history in the making.

If there had been an Oshkosh in late 1939, though, Al Mooney might have made a similarly spectacular entrance with his tiny Culver Cadet. It was just as unexpected, almost as "different" and offered about as much of a jump in performance over its contemporaries as did the VariEze 36 years later. To appreciate the impact of the Cadet, you have to look at it in the context of its days and time. Most of those who could afford to become Private pilots in 1939 were chugging around in 70-75 mph Aeronca C-3s and Ks, Taylor/Piper E-2s and J-2s and a great assortment of 10 and 12 year old Wacos, Travel Airs, Eagle Rocks and the like, a few of which still had OX-5s and OXX-6s up front. If you were doing a little better than O.K. financially, you might have even been able to afford an occasional hour in one of the new J-3s and 4s, Chiefs, Taylorcrafts or even a shiny little Luscombe. The latter was a sensation among working class aviators because it put an affordable 100 mph airplane in their eager hands. At 4.5 gallons per hour, that was really something!

Sure, there were Monocoupes, Phantoms, STAs and, yes, Staggerwings and Executives in those waning days of '39, but don't kid yourself, **those** jobs were for the rich . . . the latter two for the **filthy** rich! That year, a D Model Staggerwing sold for over 18 grand . . . while the average Joe's fondest dream was to work his way up to an annual wage of a thousand dollars per year!

Imagine, then, the sensation Al Mooney created when he announced he had flown a two-place airplane that would do 140 mph on 75 horsepower . . . and that he planned to sell copies of it for $2200!

The Cadet was certified on September 7, 1940 and 359 were built between then and October 17, 1942 when Culver switched over to making target drones for the military . . . "for the duration", as we used to say. 359 airplanes in two years . . . particularly the fateful years of 1941 and 1942 . . . is perhaps the best evidence we have today for the instant popularity of the Cadet. That was a lot of airplanes for a small company like Culver and especially so considering the fact that during the production run, the entire concern was moved from Ohio to Wichita.

After World War II ended production of civilian Cadets, a target drone version, the tri-geared LAR-90 (PQ-8), was built for a time. A further development, the PQ-14, was built by the thousands. After the war, Culver introduced the much ballyhooed V . . . then fell victim to the lightplane market collapse of late 1947. The type certificates of both the Cadet and V passed through a number of hands over the years (Superior, California Aero, Lark and Helton) and several abortive attempts were made to revive the designs. Texan Pappy Spinks, who owns an airport full of aviation's orphans, holds the Culver rights today.

The Culver Cadet was something of a legend in its own time. Within months of its introduction, it began acquiring a reputation as a "hot" airplane. With its retractable gear, it was the cleanest airplane many of its pilots had ever flown and, with its lively handling, simply begged to be horsed around. Inevitably, a few aspiring fighter jocks managed to pull some Culvers apart in the air . . . and just as inevitably, hangar scuttlebutt soon had the Cadet tagged as a "killer". Of course, that, in turn, absolutely guaranteed the rise of a Culver "cult". If you flirted with fate by daring to fly one of those skinny legged little killers, you were someone special, a "hot" pilot in the parlance of the late 40s and early 50s. In reality, the Cadet was largely undeserving of its shady reputation. Flown within its normal operating envelope, it was a pleasant, responsive and efficient little airplane . . . but, shush! its owners didn't want their grudging admirers to know that!

In later years, the antique airplane hobby came into being and the Cadet

took its place as an honored relic of aviation's adolescence. Today, a small band of devotees lovingly restore and maintain the **113** that still exist . . . according to FAA's records. At this year's Watsonville, CA Fly-In several beautiful examples were on display and I had the pleasure of interviewing the owners of a couple of them. One was a Cadet I've been admiring for years and the other was a brand new (to me) restoration . . . with an unusual "military" paint scheme.

**Paul Schuyler's N34766**

Paul Schuyler of Saratoga, CA is a vintage airplane collector with preferences that touch some soft spots in almost all of us who admire the smaller personal planes of the past. He owns one of the most beautiful Culver LCA Cadets in existence and, with Larry Struck, also owns an absolutely mint Luscombe 8A . . . and a Stearman . . . all three of which were on display at Watsonville this year. Then, in the course of talking about these aircraft, I learned they have a Velie Monocoupe — a straight axle Model 70 — at home in their shop . . . along with a great number of old engines and props . . . and that they are keeping their eyes open for a STA.

Breathes there an old airplane nut who doesn't find at least **one** favorite in that lineup?

Paul's love affair with the Culver Cadet began when he was 10 or 11 years old. He saw one of the little elliptical winged speedsters fly over his home and thought ". . . it was the greatest thing I'd ever seen — with the gear up and everything!" That youthful evaluation never waned and at his first opportunity, in 1970, he bought a Cadet. The airframe was completely rebuilt and its Continental C-85 was given a major overhaul. Cotton was laid up over the plywood fuselage and Ceconite was used to cover the wings. A polyurethane paint by Finch that is simply called "Red" was used to finish the Cadet. It is trimmed in gold — to match the authentic Culver decals purchased from a fellow Culver enthusiast, Jack West of Costa Mesa, CA.

One of the few things casual observers find lacking in the appearance of a nicely maintained Cadet is what they perceive as a "spindly" landing gear. Actually, the gear is quite strong and Paul believes that if the airplane had been equipped with gear doors like most other retractables, people would have never found reason to complain. The Cadet prototype was initially fitted with gear doors but apparently they did not produce enough of an increase in performance to justify production, so were dropped. They looked great, however, so, Paul decided to build a set for his airplane. True to form, he gets no significant increase in cruise or top speed but everyone universally admires their looks.

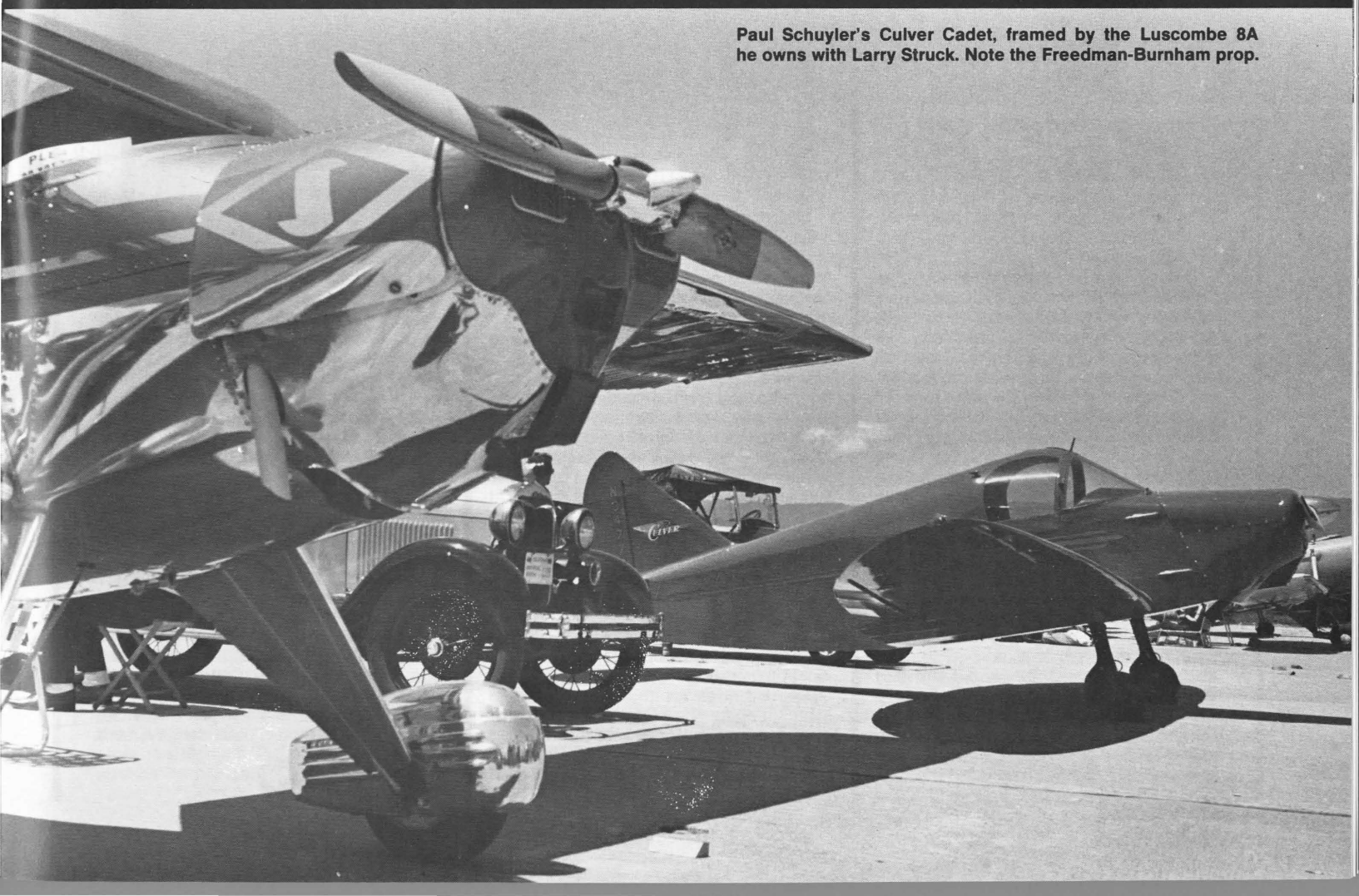
Another cosmetic change in Paul's Culver is in the cowl. The various parts have been welded together and give the appearance of a one-piece fiber glass unit, so smooth is the exterior. Also, the door windows extend a little higher into the cabin roof than production Cadets . . . again, like the prototype.

Since its restoration in the early 70s, Paul has put about 500 hours of flying time on his Cadet, including a trip back to Oshkosh. The late Nick Rezich, who was a very enthusiastic Culver owner when they were new, spotted the airplane immediately and spent a lot of the week sitting under one of its wing tips reminiscing about his experiences in his Cadet. It is one of Paul's now eternal regrets that Nick never got around to flying 34776. He intended to on his next trip to California . . . but we all know how those things go.

Your editor was also one of those drooling over Paul's Cadet that year and I've made it a point to look it over closely every time I see it again on one of our California trips. Amazingly, it looks as good today as ever — a tribute to Paul's restoration and the TLC he has lavished upon it ever since.

**Bill Lawson's N41729**

Another very striking Culver at Watsonville was one painted . . . rather incongruously . . . in pre-World War II Navy colors. Incongruously, that is, until I learned that its owner/restorer, Bill Lawson of Walnut Creek, CA, had



**Paul Schuyler's Culver Cadet, framed by the Luscombe 8A he owns with Larry Struck. Note the Freedman-Burnham prop.**

served in Scouting Squadron 2 on the carrier Lexington in the late 30s. He chose to paint his Cadet in the Squadron's prewar colors and markings simply for old times sake . . . and no one can argue with that. Besides, it looks good.

Bill, I learned is an old hand when it comes to Culvers — N41729 being his fifth! He bought his first one, a Franklin powered LFA, in 1948 and has had one virtually ever since. He has restored . . . or tried to restore several. Two of them were sold to eager beavers before he could finish them. Along the way Bill has also owned a Culver V, but the Cadet remains his favorite.

He picked up 41729 in 1970 (the same year Paul Schuyler bought his Cadet) in Maricopa, AZ. A dusting outfit had installed a Lycoming 0-320 (150 hp) and then for whatever reason had allowed the airframe to really get run down. Bill bought it as a basket case and spent the next five years completely remanufacturing it. Originally built in 1942 as a LFA (Franklin), it was made an LCA by the installation of a Continental C-85-12.

Bill has some interesting things to say about Cadets as a result of his 34 years experience with them. He has found them to be rather frustrating to work on at times — because many parts are not interchangeable from one airframe to another. "They were supposed to be production airplanes," he says, "but they really weren't. Culver apparently had one journeyman mechanic and an endless parade of high school apprentices making the airplanes back in Wichita in those days. (Culver certified the Cadet at Port Columbus, Ohio but moved to Wichita a few months later. Most Cadets were made in Kansas.) Parts from one airplane won't fit another. The windshield frames aren't the right slope, the canopies don't match, etc. About the only things that fit are the trusses in the wings. They even have different size bolts in the wing fittings."

In 1940 Culver claimed the Continental A-75 powered LCA would cruise at 120 mph and top out at 140. I asked Bill how close those numbers were to real world operation . . . since his is a freshly rebuilt and overhauled airframe and engine. "It will do an honest 118 to 120 with the C-85," he replied, "and will fly around 450 miles with a reasonable reserve. 400 miles is about my personal limit, anyway," he laughs.

Bill learned to fly in 1940 in an Aeronca C-3, soloing after just four and a half hours of dual. Even in those days, he had a desire to build his own plane, but once he flew a Cadet, he knew he had found his dream machine. Unlike so many of us who want to own one of everything that ever flew, Bill has stuck to his convictions.

# THE WAY WE WERE


The Sportsman Test Pilot

James B. Taylor, Jr., Flies the Continental 75-powered Culver Cadet

This magazine's namesake, **The Sportsman Pilot**, had a pilot report on the then new Culver Cadet in its issue dated October 15, 1940. Sportsman Test Pilot James B. Taylor, Jr. flew NC20948 — the third one built — from Roosevelt Field in New York City. This is what an apprehensive pilot had to say about his first experience with the airplane . . . 42 years ago:

"In the air, the controls, particularly fore and aft, were found to be a little on the sensitive side. Also, they were not as well coordinated as they might be, the ailerons being quite heavy and the fore and aft control light. The rudder was quite light and effective. The ship seemed to be on the ragged edge of stability, particularly fore and aft, although with a tab it is very difficult to check this accurately, and I did not have the necessary time to experiment with it.

"The ship is undoubtedly fast and maneuverable. The climb, with two up, is about 800 feet a minute, which certainly is adequate. Since the ship was not equipped with flaps and I was not used to it, I picked the long runway on the Grumman field at Bethpage, Long Island, for the first landing and came in close to an indicated 100 miles per hour, figuring that I probably would float all the way across the field. Much to my surprise, on leveling off the airspeed dropped down and the ship made a very nice landing not more than 400-500 feet from the end of the runway. I think this high figure was probably due to the fact that the pitot head was located in a bad spot. I doubt that I was going that fast in the glide.

"By this, I do not mean that the airplane does not go as fast as they say it does. There is no question that it will cruise at 120 miles per hour, if not more. It certainly went by all the other light airplanes as though they were standing still.

"I then made a landing at the Aviation Country Club, at Hicksville, Long Island, and several at Roosevelt Field. When one becomes used to the ship, it is much more comfortable. The undercarriage retraction is a little awkward with two people in the ship, as the dual controls seem to get in the way of one's legs. Only a couple of turns are required and I would suggest a ratchet, which would be much easier. The gear installed moves up and down very nicely, however. The little ship is a joy to taxi on the ground and the undercarriage is extremely smooth, the brakes excellent.

"In conclusion, I would say that the Culver Cadet is hardly an airplane for a novice, not because of its flying qualities, but because of its speed. However, for a pilot who has had a good deal of experience and wants an inexpensive light airplane which still gives excellent performance, the Cadet should be ideal."

And that's the way it was . . . in October of 1940. (Sorry 'bout that, Walter!)

# Barnett J4B

At Watsonville I kept noticing a Barnett gyroplane in the fly-bys — climbing out like a proverbial homesick angel. Eventually, I cornered it on the ground and was able to talk to its pilot, Bob Aspegren of Fairfield, CA. There was nothing unusual about the craft to account for its excellent climb performance he told me — it was simply the Continental 0-200 powered version of the Barnett, the J4B, and they all are super climbers. There is a lower powered model, the A-65 powered J3M, and it, of course, is not capable of the sustained rate of climb the J4B can muster.

Bob, I learned, had become involved with autogiros in 1972 when he built a VW powered Bensen Gyrocopter. "It took me 7 years of tinkering to get the VW to a halfway reliable state — and I had only 35 hours of flight time after all that. So, I decided to get something more reliable. I bought a Continental aircraft engine and installed it in the Bensen, but although it did solve the reliability problems, it was really too heavy for the Gyrocopter airframe . . . at least I thought it was.

"I began looking for something a little larger, something better suited for the Continental . . . and that's why I have the Barnett today. It weighs 450 pounds empty and grosses out at 750. The 0-200 turns a 58" diameter, 57" pitch propeller at 2750 rpm. The maximum rate of climb at sea level is 1600 fpm and with the open cockpit, it cruises at about 90 mph.

"You can enclose the cockpit if you want to, but I enjoy open cockpit flying — the nostalgia, I suppose. I do use it for cross country flying — as much as 500 miles. The luggage area can hold up to 60 pounds of camping gear or whatever. It only holds 8.5 gallons of fuel, however, so gas stops come up pretty often."

In further conversation, I learned that this particular J4B had a rather unique history. The J3s and J4s have steel tube fuselages much like the Piper airplanes of the same designations, so before their designer, Jerrie Barnett, began cutting up expensive 4130, he whipped out a proof-of-concept mock-up, utilizing PVC tubing, broom sticks, etc. — anything cheap he could lay his hands on that simulated steel tubing. After he was satisfied with all the triangulation, dimensions, sizes, CG locations, etc., Jerrie drew up his blueprints from the mock-up and began work on his prototype . . . then turned the mock-up over to Francis Miller who, in turn, used it as a full size pattern to build his own airframe.

Miller worked hard and actually had his J4B completed and registered with FAA — even had its Airworthiness Certificate — before Barnett completed the prototype. Barnett's ship flew first, however — by about a week.

Sometime later Bob bought the J4B from Miller and has been enjoying it ever since. A fixed wing pilot, he likes the Barnett's controls, which work just like an airplane's. This was one of the original design criterions — a gyroplane that would require a minimum amount of check out time by the typical fixed wing pilot. Jerrie Barnett, in fact, used to recommend at least 10 hours of fixed wing instruction before a new student pilot attempted to fly a J3M or J4B . . . at a time when others were saying one could teach himself to fly in the type.

I still wondered about that climb rate and pressed Bob just one more time for some technical explanation. "Well, it does have a 25 foot rotor blade system — standard Rotordyne blades," he said, "whereas Barnetts originally had a 23 foot system."

Or, to paraphrase the hot rodders of days gone by: "There's no substitute for disc area"?

"I suppose."

In performance minded California, what else did I expect!

Photo by Gordon Walker

# SIDEWINDER X

One of the pleasures of attending flyins is that you never know what to expect. You think you've seen it all, then . . . "Wow! What th' devil is THAT!"

I encountered a "what th' devil" at Merced this year — a Sidewinder that somehow just wasn't right. I stopped and eyeballed it for a few moments, searching for some visual clue to its "strangeness". It had a Twin Comanche "tiger shark" nose cowling and a leaf spring type main gear . . . but there was something else.

Then I saw it. A T-18 was sitting nearby . . . I glanced at it and back to the Sidewinder — did a doubletake, and there it was. A T-18 and a **normal** Sidewinder are about the same size, but THIS Sidewinder was **considerably** larger. A scaled **up** Sidewinder? My mind reeled at the thought . . . all the re-engineering, the extra work . . . would someone **really** do that?

Well, of course they would. Homebuilders I should have learned long ago are capable of almost anything . . . any length, any sacrifice to make their dream planes a reality.

But enough of this idle speculation, let's get over and meet the owner and find out what goes here, I thought.

The owner/builder/pilot turned out to be Gordon Walker of Renton, Washington and he instantly set my mind at ease by assuring me that, no, my middle aged eyeballs weren't in a failure mode quite yet — it was, indeed, a scaled up Sidewinder. 20% larger than standard.

"The canopy is the same and the main spar is the same . . . everything else is different," he said. "It's 3 feet longer, it's got 116 square feet of wing area, weighs 1423 pounds empty and will keep up with VariEzes!"

I was right about the Twin Comanche in the family tree — firewall forward. A Lycoming IO-320 (160 hp) and a constant speed prop power the Sidewinder X, as Gordon calls it, and had just that morning zipped him and a friend down from Renton at an average ground speed of 185 mph. This, he said, was the aircraft's first trip more than 100 miles from home base and he was extremely pleased with its cross country performance.

Gordon, it turns out, had assisted in the building of a couple of stock Sidewinders before he started his, plus an assortment of T-18s, Mustang IIs, Barracudas, etc., around the Seattle area — enough that he had become determined to do something "different" for himself. He wanted a bigger airplane — for cabin room and to get a little less twitchy airplane, since he was still a fairly low time pilot. He wanted more range and more baggage space and . . . well, yes, something that would make his airplane stand out from everyone else's.

In the beginning, his Sidewinder X had a retractable gear. It was installed and functional when Gordon had a long heart-to-heart talk with himself, mostly involving his capability to handle a high performance "complex" airplane at this particular time in his flying career. The result was a rare and highly commendable show of character . . . he decided he wasn't ready for this kind of airplane and, once that decision had been made, took torch and hacksaw to hand and cast out the offending part.

A lot of new things **were** built into the airplane, however — "wet" wings holding 50 gallons behind .032 leading edges; tip tanks that currently serve as baggage compartments but which are plumbed for future use as fuel tanks ("When I can afford an eleven grand 0-360"); 3-axis electric trim; 14 inch extension of the fuselage aft of the wing ("Should have added just 7 inches"); 2 walking beams in the elevator push/pull tube to avoid buckling and to permit adjustment of pitch sensitivity; larger disc brake; full dual controls; 720 radio, voice activated intercom and that final touch, a crushed velvet interior.

There's a lot more . . . but you get the picture. It looks like a Sidewinder, but it's really Gordon's creation.

. . . And I'm still wearing a smug little smirk 'cause I spotted it right off. Yessir, boy, it didn't fool me for a second! Why, at the very first glance . . . etc., etc., ad nauseam, ad infinitum.

# Sportsman Pilot

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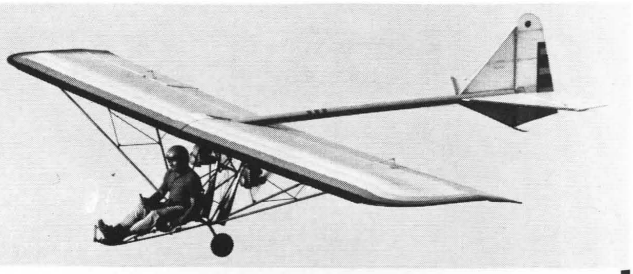

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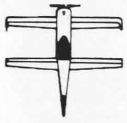

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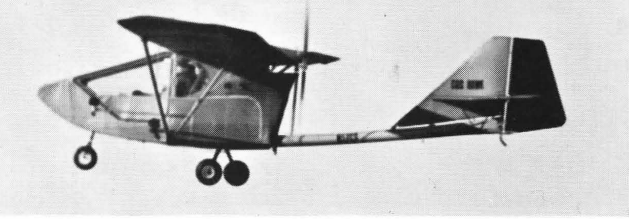

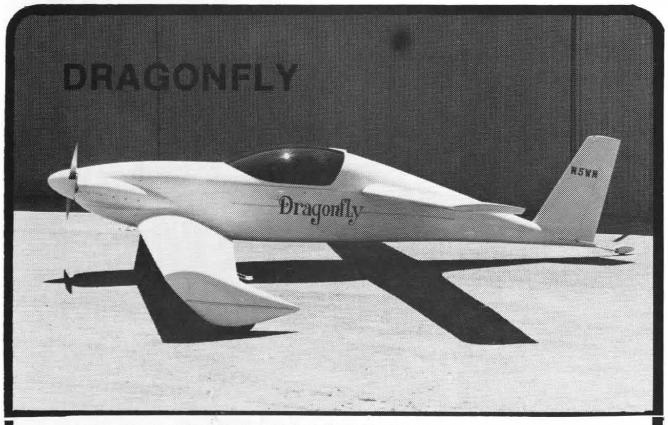


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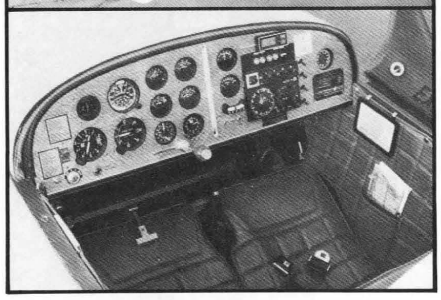

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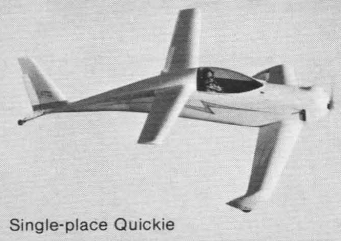

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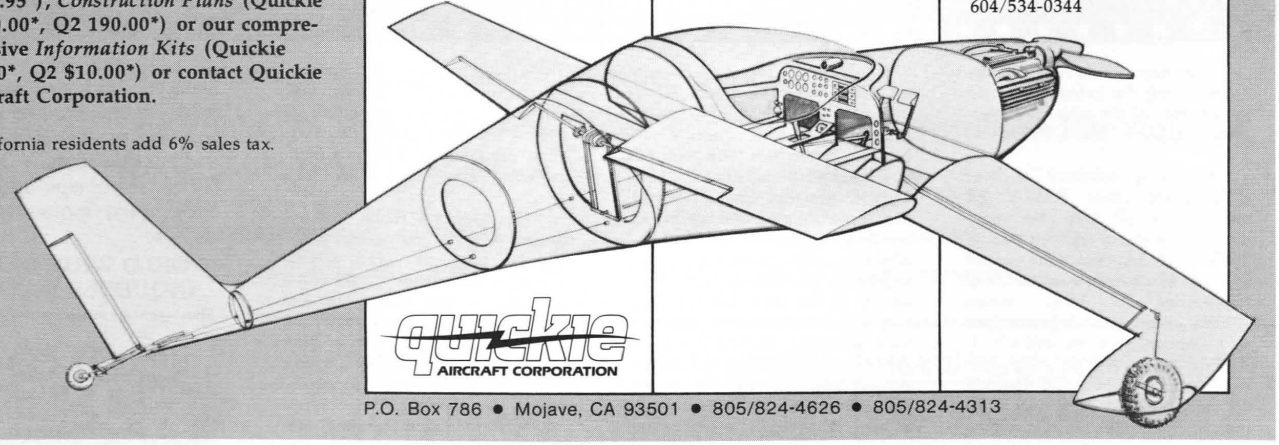

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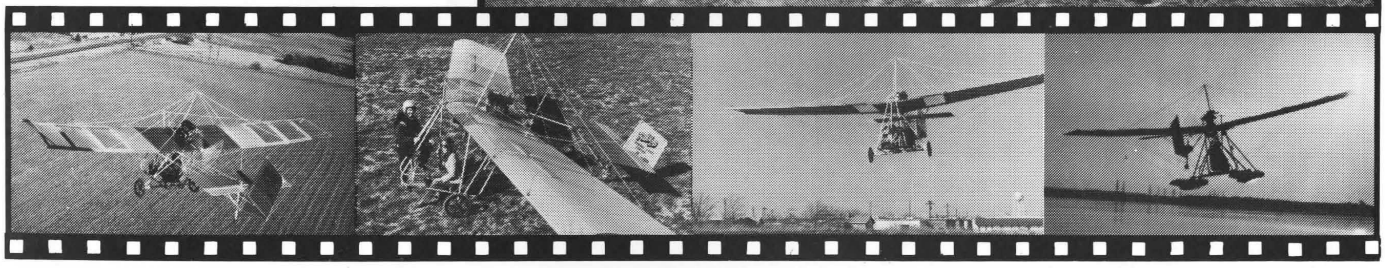

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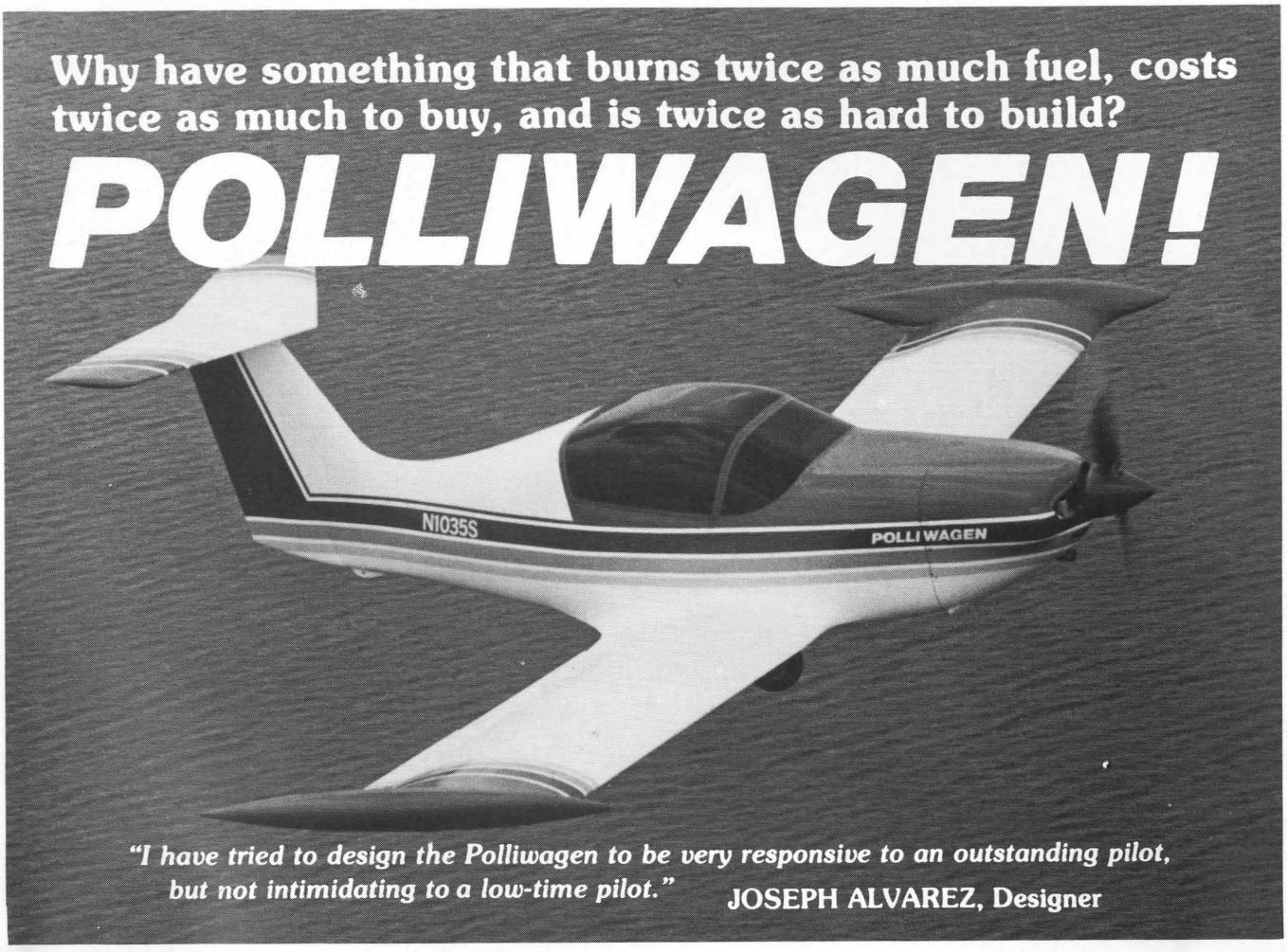


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